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SNIPER RIFLES OF WWI

FIELD STRIPS & SHOOTING TIPS

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PLUS

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BROWNING, MOSIN-NAGANT, BERTHIER, GARAND, M1 CARBINE,
Krag, 1911 GOVERNMENT MODEL, MARTINI-HENRY, ARISAKA,
ENFIELD, JOHNSON, SKS **AND MUCH, MUCH MORE**

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RARITIES

RIFLES

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**M24/47 YUGOSLAVIAN
MAUSER RIFLE**



**GERMAN 98K (M98/48)
MAUSER RIFLE**



**M59/66A1 YUGOSLAVIAN SKS
RIFLE**



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YUGOSLAVIAN MAUSER BAYONET



M98/29 MAUSER BAYONET



SWEDISH MAUSER BAYONET



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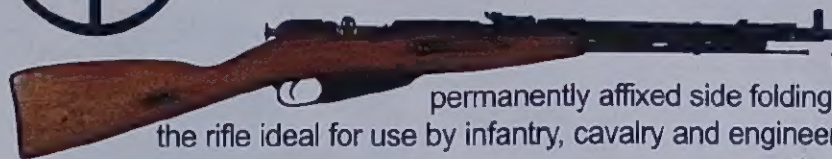
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Century International Arms, Inc.

M44 Bolt Action Rifle, Cal. 7.62x54R *Curlo & Rollo*



The last bolt action rifle produced for the Red Army, the M44 features permanently affixed side folding bayonet. The carbine length made the rifle ideal for use by infantry, cavalry and engineers. As is evident by our offering here, the popular M44 was also copied and used by several former Soviet satellite countries. M44's have a 5 round fixed box magazine, barrel length of 20" and overall length of 40". Weight: 8.9 lbs.

RI694-X Condition: Excellent

RI694-A Condition: Very Good (In Arsenal Wrapper)

Enfield No. 4 MK1 Long Branch Rifle, Cal. .303 British *Curlo & Rollo*



Comes with Free bayonet and scabbard. Made in Canada. 10 rd. magazine. Barrel: 25.2", Overall: 44.5", Weight: 9.1 lbs.

RI1177-G Condition: Good

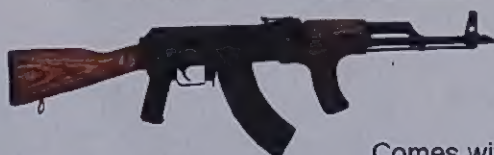
Enfield No. 4 MKI Sniper Rifle, Cal. .303 w/ Scope Base *Curlo & Rollo*



Does Not Include Mount & Scope

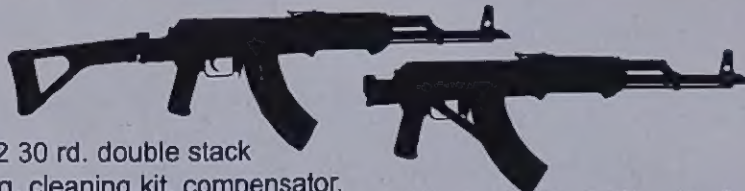
RI017S-V Condition: Very Good (Refinished)

GP WASR-10 HI-CAP Semi-Auto Rifle, Cal. 7.62x39mm*



With Original Wood pistol grip & Military Stock

RI1202-N Condition: New



With Composite Folding Stock
RI1205-N Condition: New

Comes with 2 30 rd. double stack magazine, sling, cleaning kit, compensator, bayonet lug and bayonet. Barrel: 16 1/4", Overall: 34 1/4", Weight: 7.5 lbs.

*NO SALES: CA. & CT. or where prohibited by law.

ACCESSORIES & AMMO

FR-8 / CETME Spanish Bayonet & Scabbard



This genuine bayonet fits the FR7, FR8 Spanish mausers and the Cetme rifle. It has a black bolo carbon steel blade, black composition handle

and black cast metal guard and pommel. Combined with its green synthetic scabbard, makes it one of the best sellers of all time! Overall: 13 7/8".

BY143-V Condition: Very Good \$19.95

8mm Romanian (153 GR.)

70's mfr. 20 rds./box inside 380 rd. can. 2 cans in wood case. FMJ Steel case. Berdan primed, Corrosive

AM1245 380 rd. can \$32.95

7.62x54R Softpoint Ammo (203 GR.)

Russian mfr. 20 rds./box. 500 rds./case. Berdan non-corrosive.

AM024 \$5.49/box, \$121.75/case

7.62x54R COM BLOC (149 GR.)

20 rds./package, 440 rds./tin. Berdan primed, Corrosive. 1980's mfr.

AM868 \$43.87/Tin. Sold in tins only.

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SURPLUS Firearms

8 WHAT'S NEW IN SURPLUS FIREARMS

By Dan Yordan

A collector and shooter's dream come true.

16 FRENCH 07-15 BERTHIER

By Garry James

This "other Lebel" was actually superior to its predecessor and won its spurs in the French trenches of World War I.

20 THE BROOMHANDLE MAUSER

By Dennis Adler

Steak, sinister and instantly recognizable, this milestone auto is still unsurpassed for sheer mystique and mechanical intricacy.

24 THE FRENCH M1892 ORDNANCE REVOLVER

By Robert T. Shimek

During its 30-plus years of production, this sturdy little piece saw plenty of action.

28 SWEDISH MODEL 1896 MAUSER

By Robert T. Shimek

A beautifully made 6.5mm tackdriver that is a favorite with both shooters and "sporterizers"

34 THE M1 CARBINE

By Garry James

Loved by some, hated by others, the little .30-caliber carbine is still a fun plinker and great collector's piece.

38 MODEL 1909 ARGENTINE MAUSER

By Steve Comus

To many collectors, this superbly made bolt-action military rifle represents the crown jewel of all Model 98 variants.

44 DEATH FROM AFAR: SNIPING DURING THE GREAT WAR

By Martin Pegler

A look at the men and equipment in sniping's coming-of-age during World War I.

53 COLT MODEL M POCKET AUTO

By Garry James

Models 1903 and 1908 were among the most popular carry pistols ever made.

56 BERETTA MODEL 1934

By Garry James

What this .380 Italian service pistol lacked in power, it more than made up for in reliability.

60 MODEL 1903 SPRINGFIELD

By Charles W. Karwan

The Mauser-inspired .30 bolt action was superbly built and well designed. Though a military rifle, it did some of its best work at the competition target range.

69 THE NAVAL LUGER

By Garry James

Adopted in 1904, this was the first auto accepted by the German military.

72 MARTINI-HENRY

By Garry James

This rugged, reliable British single-shot rifle was used by regular and colonial forces worldwide.

76 THE JOHNSON M1941

By Payton Miller

Although it never replaced the Mighty M1, this intriguing artifact set the stage for the concept of a "special operations" weapon.



Page 8



Page 20

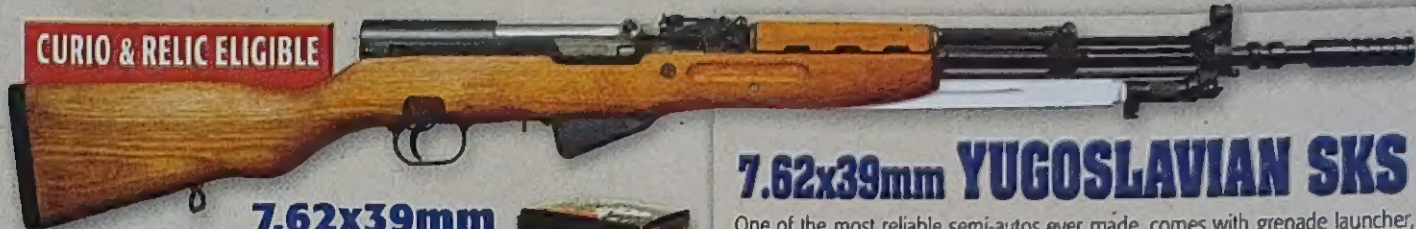


Page 44



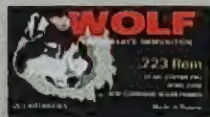
Page 76

ON THE COVER: Surplus Arms covers a wide field from the commonplace to the very rare. There is something for everybody. L-R, top to bottom: K98 Mauser, '03 Springfield Sniper, M1 A1 Carbine, P.08 Luger, 1917 Colt, 1911 Government Model, Liberator

CURIO & RELIC ELIGIBLE

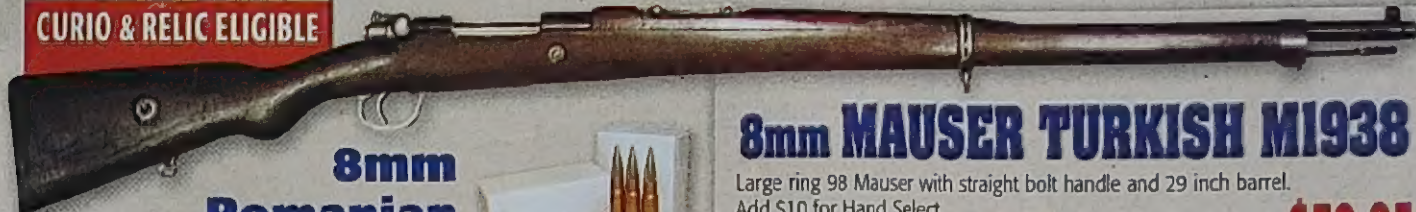
7.62x39mm Russian Wolf

HP or FMJ - New Production - Non-Corrosive
500 rounds.....**\$59.95**
1,000 rounds.....**\$109.90**



.223 Caliber Russian Wolf

55 or 62 Grain FMJ - Steel Case - Non-Corrosive
500 rounds.....**\$64.95**
1,000 rounds.....**\$119.90**

CURIO & RELIC ELIGIBLE

8mm Romanian

1970's Production

154 Grain FMJ - 20 Round Boxes

380 rounds in Sealed Tin.....5-1243 **\$32.95**
760 rounds, Two Sealed Tins.....**\$29.95** per 380 rounds

**CURIO & RELIC ELIGIBLE**

7.62x54R RUSSIAN MOSIN M44

Arsenal refinished, in very good to excellent condition, comes with bayonet and accessories.....15-923 **\$69.95**

Mosin-Nagant Monte Carlo Synthetic Stock
7.62x54 Rifle or Carbine.....7-742 **\$49.95**

Mosin-Nagant Scope Mount Requires drilling and tapping.....6-682 **\$39.95**

7.62x54R Caliber Czech Ammo 148 Grain FMJ - Steel Case
400 rounds.....5-826 **\$29.92** - 780 rounds.....**\$56.08**

.308 CALIBER SUPER SALE!

Non-Corrosive • Boxer Primed • Brass Case • Full Metal Jacket

5,000 rounds.....**\$89.90** per 1,000 rounds

3,000 rounds.....**\$94.50** per 1,000 rounds

1,000 rounds.....**\$99.90**

500 rounds.....5-1123 **\$59.95**

.30-06 NON-CORROSIVE

On 8 Round Garand Clips in 48 Round Bandoleers

150 Grain FMJ • Boxer Primed • Brass Case

480 rounds - 10 Bandoleers.....5-1284 **\$105.55**

960 rounds - 20 Bandoleers.....**\$95.95** per 480 rounds



7.62x39mm YUGOSLAVIAN SKS

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Good Condition.....15-745 **\$99.95** - Two or more.....each **\$89.95**

Yugo SKS in Excellent to Like New Condition.....15-950 **\$149.95**

New SKS 10 Round Stripper Clips Twenty clips.....4-95 **\$5.99**

SKS 30 Round Mags.....4-227 **\$19.95** - Five or more.....each **\$18.95**

Complete Set: 4x30 Scope, Mount and Rings.....6-147 **\$29.95**

SKS Bipod clamps on barrel.....7-452 **\$19.95**

Windage/Elevation Sight Adjustment Tool.....7-293 **\$9.95**

Three or more.....each **\$7.95**

8mm MAUSER TURKISH M1938

Large ring 98 Mauser with straight bolt handle and 29 inch barrel.

Add \$10 for Hand Select.

Good Condition.....15-435 **\$64.95** - Two or more.....each **\$59.95**

Mauser Turkish M1938 in Very Good Condition.....15-1180 **\$89.95**

Advanced Tech Mauser Stock with Scope Mount

Fits large ring type 98's with fully bent bolt.....7-937 **\$79.95**

Mauser 98 Straight Bolt to Bent Bolt Conversion Kit

Includes drill, tap, hardware and instructions.....7-1118 **\$14.95**

Mauser 98 No Drill-No Tap Scope Mount with Rings

For use on fully bent bolt guns, requires stock modification.....6-677 **\$44.95**

Hoppe's Bore Brush 8mm caliber.....7-302 **\$1.50**



7.62x39mm ROMANIAN AK-47

Semi-auto 7.62x39mm Romanian AK-47 with bayonet, bayonet lug, slant cut muzzle brake, comes with high capacity magazine.

J&G Price.....15-1126 **\$329.95**

Two or more.....each **\$319.95**

Romanian AK-47 Parts Kit

Complete set of parts less receiver and mag. Includes trunion, wood stock set with vertical pistol grip on fore-end, slant cut muzzle brake, trigger, bolt, bolt carrier and other small internals. For repair or replacement parts only. All NFA laws apply. No FFL required. In good to very good condition.

J&G Price.....7-1634 **\$99.95** - Two or more.....each **\$89.95**

Steel 30 Round AK Mags

7.62x39mm.....**\$14.95** - Five or more.....each **\$12.95**

Ten or more.....each **\$9.95**

AK Mount and Rings.....6-166 **\$19.95**

Complete Set: 4x30 Scope, Mount and Rings

Per set.....6-241 **\$29.95**

Windage/Elevation Sight Adjustment Tool

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80 1911/1911A1 GOVERNMENT MODEL

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87 THE WINCHESTER RUSSIAN MODEL 1895

By Garry James & Philip Schreier

Ordered as an emergency arm in World War I, this lever gun is still a good shooter.

90 LONG LEE-ENFIELD

By Garry James

This repeater was the first of a noble line of fine military rifles.

94 NAMBU TYPE 14

By Robert T. Shimek

Japan's schizophrenic 8mm pistol combines a number of very good—and very bad—features.

99 NO. 2 MK 1 ENFIELD REVOLVER

By Garry James

This Webley-style double-action revolver was a mainstay with British and Commonwealth forces during the Second World War.

103 MODEL 1917 COLT NEW SERVICE

By Garry James

Only moderately used, this stopgap revolver turned out to be a reliable substitute standard sidearm during two World Wars.

106 SWISS MODEL 1931 CARBINE

By Garry James

This improved version of the straight-pull Schmidt Rubin remained in service for more than five decades.

109 MODEL 1886 LEBEL

By Garry James

Though awkward by modern standards, this revolutionary arm was the secret weapon of its day.

112 GERMAN G.43/K.43 RIFLE

By Robert T. Shimek

This 8mm autoloader was a practical design that was used in surprising numbers in World War II—and beyond.

116 SPRINGFIELD .45-70 TRAPDOOR

By Garry James

This classic breechloader remained in service for almost a half-century.

120 TYPE 99 ARISAKA

By Steve Comus

Japan's battle rifle was crude, quirky but effective.

124 M1 GARAND

By Garry James

The legendary .30-caliber Garand was arguably the best infantry rifle of World War II.

129 LIBERATOR

By Garry James

Made of welded sheetmetal, it was one of the secret weapons of World War II.

133 MODEL 1896 KRAG-JORGENSEN CARBINE

By Garry James

This handy little repeater would forever find fame as the arm carried by the rough riders at the battle of San Juan hill.

136 ALL ABOUT THE SKS CARBINE

By Joe Poyer

It's fun to shoot and red-hot in the collectables market right now.



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WWII-era Mauser rifles, still in Military-New condition!

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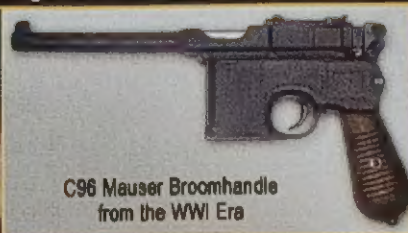
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C96 Mauser Broomhandle
from the WWI Era



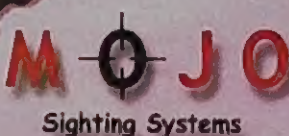
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Bob Shimek was a popular contributor to the early volumes of *SURPLUS FIREARMS*, which were published during the 1980s and 1990s and are now long out of print. An avid collector of pistols and military rifles, he was a serious student of firearms history. Bob wrote numerous articles and gun reviews as well as the "Collectible Classics" and "Handgun Hunting" columns for many years in *HAND-GUNS*. He was also a frequent contributor to various *GUNS & AMMO* Specialty Publications. Several of Bob's timeless articles are included in this edition of *SURPLUS FIREARMS*.

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AARON DECKER, Editorial Director
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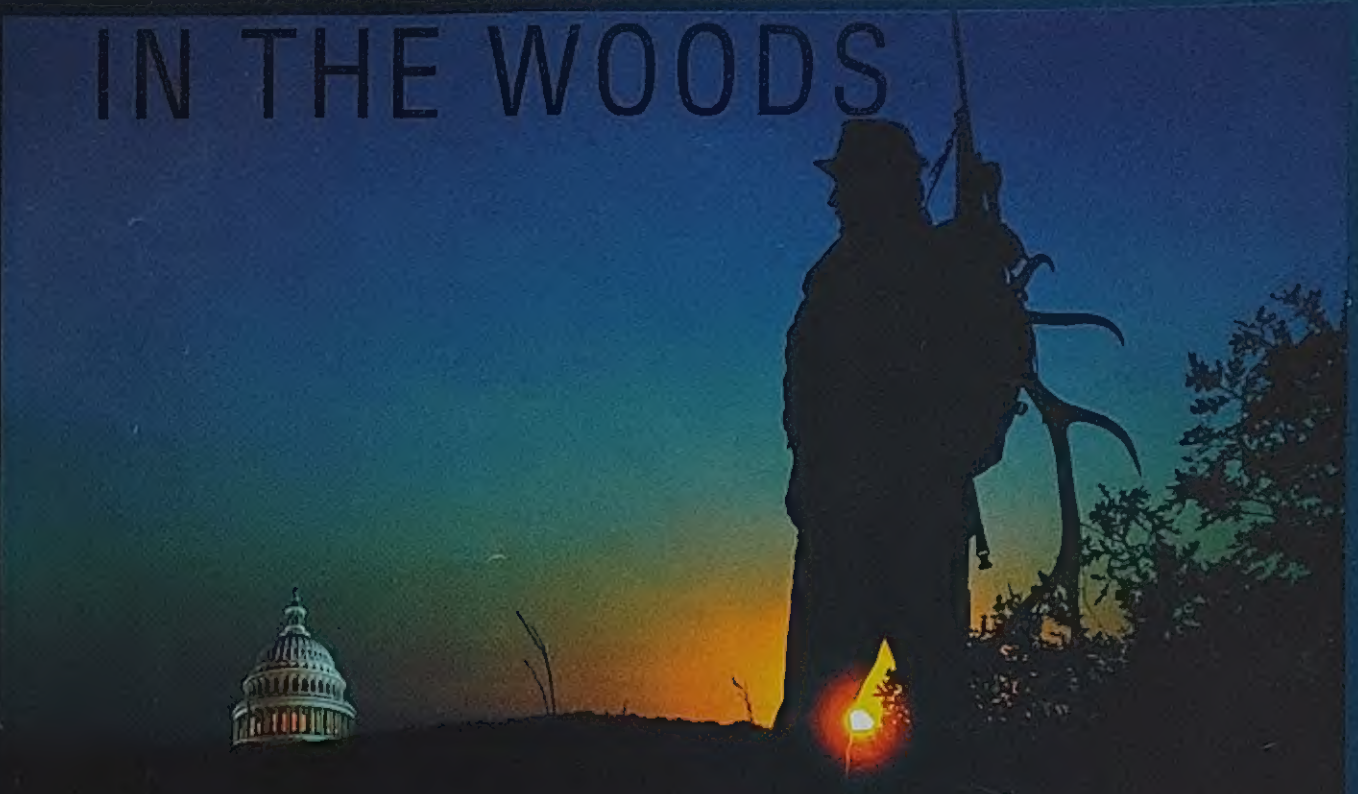
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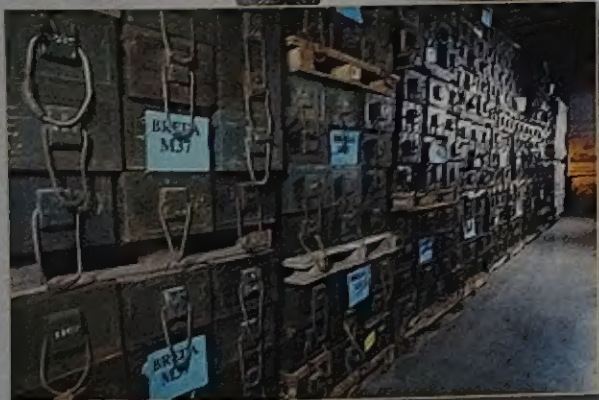


What's New in the Surplus Market

A collector and shooter's dream come true

By Dan Yordan

We've all heard it before: "When I was young, I could buy an original K98 Mauser or an M1 Carbine for less than \$100!" Well, sad to say those days are truly past, at least as far as the M1 Carbine is concerned. But new batches of various Mausers, Enfields, Schmidt-Rubins, Moisin-Nagants and other arms offer the collector and shooter a variety of all the older firearms designs in what we've now come to admire and revere as a kind of golden age of gunmaking.





This Romanian-manufactured semiauto 7.62x39mm AK variant features a very sturdy folding stock and comes with bayonet, two 30-round magazines, compensator, sling and cleaning kit.



Romanian Dragunov 7.62x54mm semiauto rifle with scope and mount, two 10-round magazines, sling, cleaning kit, oiler and cleaning rod. These are extremely accurate shooters.

As wonderful as many of today's firearms are, there is real history and mystique in surplus firearms. Who knows where that surplus rifle or handgun has been? What secrets might it hold in its history? Look at the swirl marks in the steel. This rifle was machined on a lathe or a milling machine by a man, with his own hands—not by a computer.

In addition to firearms, other wonderful historical surplus firearms accessories are turning up, and handguns and original holsters and cartridge belts and slings are offered, in very good condition, too.

Found in mostly Eastern European and former Soviet warehouses, many of these newly formed governments are divesting their inventories of their older guns, not only because they want to upgrade to the latest and greatest in modern equipment but also because they are seeking hard cash to run their fledgling economies. All the better for you and me to jump at the chance to acquire some of these surplus

rifles and handguns at reasonable prices while we can.

Wonderful Mauser rifles are available from a number of different sources and in varying configurations. There is no argument that the '98 Mauser-designed bolt-locking system is to this day in one form or another still the strongest, safest, most reliable bolt-action design there is. So it really is no surprise that thousands of wonderful Mauser rifles are coming out of national inventories and onto the open surplus-firearms market.

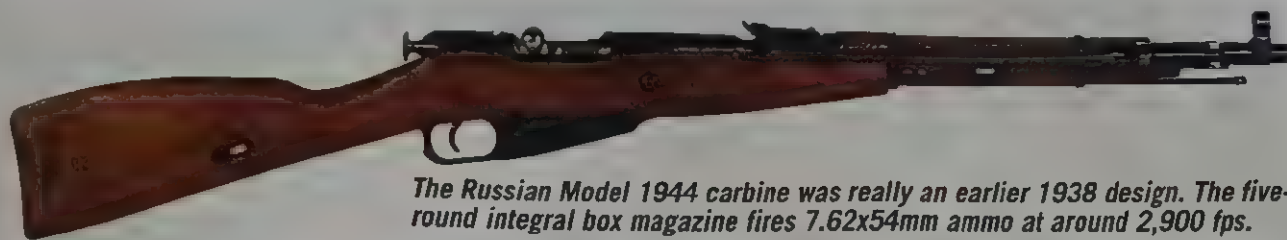
I have seen original German 98k rifles that are coming out of Russian and former Eastern Bloc warehouses that are in very good to excellent condition. Some have their original markings and stampings intact, beautifully legible, so collectors can identify the maker and year of manufacture and other details of the firearm's production. Many others, unfortunately, have the original markings peened out. But they still look and shoot as good as the day they were made. And original

equipment is also available, such as cartridge boxes, bayonets and scabbards, slings and oilers. Many of these were arsenal reconditioned after WWII and kept in dry storage. Others are like the day they were picked up from the battlefield or turned in.

Then there are Turkish Model 1938 Mausers with the straight bolt handle and long action and the Yugoslavian Model 24/47 Mausers made at the Zastava plant in the 1930s and 1940s, also with the straight bolt handle, all in the wonderful 8mm Mauser caliber.

A few words on the 8mm Mauser cartridge might be appropriate here as it is still as excellent a sporting caliber as many of today's modern calibers—and it was adopted in 1888. Also known as the 8x57, the 8mm Mauser was one of the first smokeless-powder rounds to be adopted by any nation's military—this, of course, being pre-WWI Germany. The original rounds used a 227-grain roundnose bullet that was .318 inch in diameter.

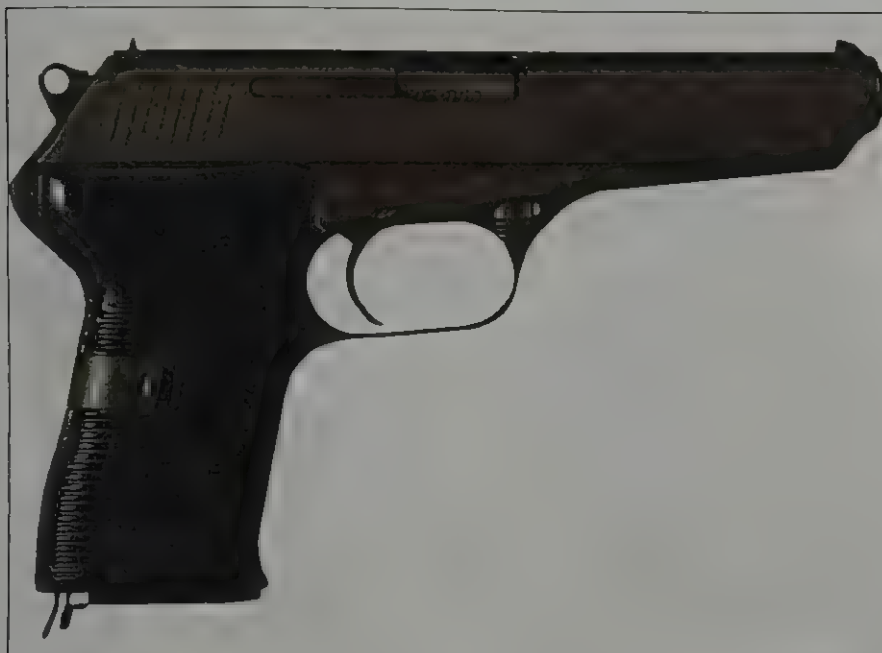
What's New in the Surplus Market



The Russian Model 1944 carbine was really an earlier 1938 design. The five-round integral box magazine fires 7.62x54mm ammo at around 2,900 fps.



Beautiful wood and excellent fit-to-finish are hallmarks of newer Yugoslavian SKS rifles. This one features the familiar folding bayonet.



The Czechoslovakian CZ52 in 7.62x25 was adopted by the Czech army in 1952. It carries an eight-round magazine and has a unique roller-locking system modeled after the German MG42 belt-fed machine gun.

In 1905 an improved higher-velocity (and higher-pressure) cartridge was introduced. This became known as the JS version, and it's the one most of us are familiar with today. The bullet diameter on the JS version is .323. Shooters take note here. If you have acquired any older German rifle that may have the 1888 Mauser action, be sure to verify that it is either a .318 or .323 bore on the rifle. If you try to shoot more modern and powerful .323-

bullet-diameter 8mm Mauser ammunition in a rifle made for a smaller and less powerful .318 cartridge, the results most certainly will be less than desirable. That is the reason most ammunition manufacturers offer loadings of the 8mm Mauser that are somewhat tame. They are concerned about a shooter accidentally using this ammo in an older rifle.

The good news is that very few of these .318-bore early Mausers

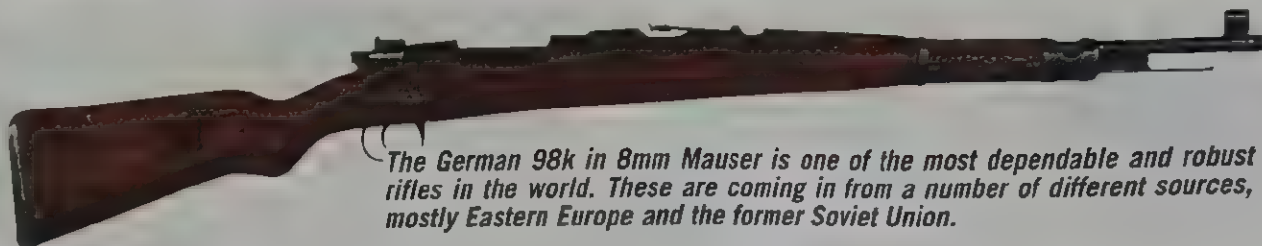
show up; they have truly been consigned to the scrap heaps, wall hangers or simply occupy a treasured spot in a collection that isn't used for shooting. There is absolutely no reason for anyone to ever shoot an older non-JS-made 8mm Mauser rifle. Put it on the wall, and enjoy looking at it. If you want to shoot 8mm Mauser ammo, use a Model 1905 or later rifle with a Mauser JS action. SOG International (Southern Ohio Guns) has a recent shipment of these, as well as many other fine surplus firearms values. Recently, Mitchell's Mausers began offering new-condition M48 Series rifles made in Serbia with German tooling and carrying the Serbian crest. These are absolutely gorgeous with beautiful teakwood stocks and selling for less than \$300. These are really beautiful Mauser rifles with great wood and fit and finish.

There are also Persian Model M98/29 Long Rifle Mausers available. These were made at the Brno factory in Czechoslovakia and are going for between \$200 and \$500, depending on condition. M98/29 bayonets are also available.

A real buy are SOG's Romanian Dragunov SVD 7.62x54R sniper rifles. The "SVD" stands for *Sniperska Vintovka Dragunova*,



The British Enfield No. 1 MK III in .303 British. A number of variations of the famous Enfield designs are available now on the surplus market and are great shooters as well as collector rifles.



The German 98k in 8mm Mauser is one of the most dependable and robust rifles in the world. These are coming in from a number of different sources, mostly Eastern Europe and the former Soviet Union.

the original Soviet designation for the Russian-designed long arm. This now-famous rifle was introduced in 1963 and was issued at the platoon level to Russian forces. Featuring a 10-round magazine, the Dragunov was made under license in China, Iran and Romania. Chinese versions of this rifle are found from time to time on the American surplus market as Norinco began distributing them in the late 1980s. The Southern Ohio Gun import is of Romanian manufacture and is brand new, unissued, with the scope and one magazine for \$595. I remember when those Chinese models were selling for more than \$1,000. These are a great value, and the wood on them is far superior to the rather poor, heavily lacquered Chinese furniture.

Hugely popular because of its low price and excellent reliability, the SKS, the famous 10-shot 7.62x39mm semiauto rifle that was the predecessor to the AK47, is offered from a number of distributors. The SKS has been manufactured in too many countries to list, and like the AK47, it can still be found in any number of configurations in active service in differing governments around the world. Right now almost-new Yugoslavian Model 59 SKS rifles,



The Russian Nagant M1895 with unique seven-round gas sealing chamber and 4.35-inch barrel was overly complicated in design but still beautifully made.

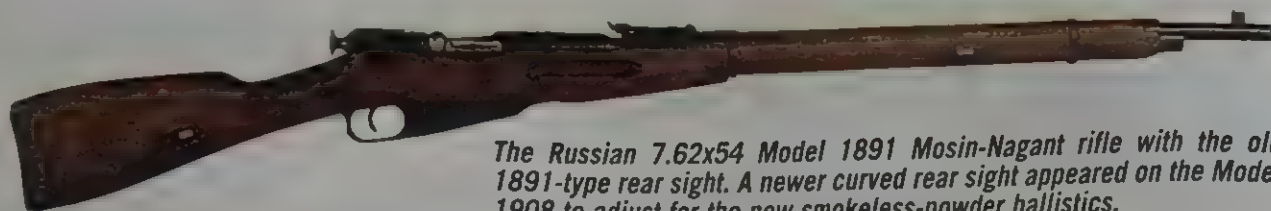
made at the Zastava factory, are available with and without the grenade-launcher barrel.

Unfortunately, if you live in California, these rifles with the grenade-launcher barrel are verboten, although to my knowledge not a single crime has ever been perpetrated by anyone with a rifle that incorporates a grenade launcher in the barrel design. Those with the launcher are called the 59/66 Model. Both models feature a folding bayonet, and depending on which distributor you purchase one from, they can be had with any number of accouterments such as original-issue stripper-clip pouches, slings

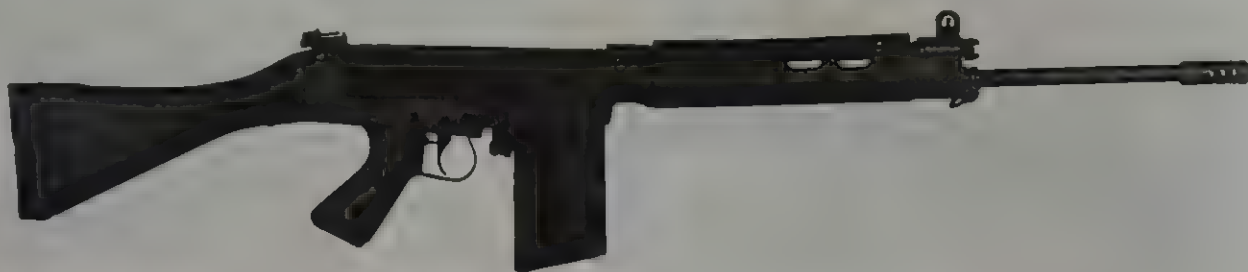
and cleaning kits. The quality on these is extremely high, and keep in mind that these are made with milled, all-steel receivers.

While the semiauto AK47 variants are now newly manufactured for the civilian market and not really "older" surplus firearms, I mention that a number of very fine models of this famous midrange-caliber semiautomatic are now available. One of the nicest versions is the Romanian GP-WASR-10. This is offered in all the different AK stock configurations including the vertical foregrip with folding stock. I include them here as they are made on the same tooling as the original selec-

What's New in the Surplus Market



The Russian 7.62x54 Model 1891 Mosin-Nagant rifle with the old 1891-type rear sight. A newer curved rear sight appeared on the Model 1908 to adjust for the new smokeless-powder ballistics.



A number of variations are currently offered in the famous FAL .308 design, probably the smoothest-functioning of all the semiauto .30-caliber autoloaders and certainly one of the most handsome.

tive-fire guns only for the civilian semiauto market. These come with bayonet lug, bayonet, frog, flash suppressor, ammo pouch and two 30-round mags. Next on my list are any number of wonderful British Lee-Enfield rifles used by Great Britain, Canada, Australia and many allies during past conflicts.

No. 4 Mk Is are available with the spike bayonet and scabbard for less than \$100. These, of course, were all manufactured in the .303 Enfield caliber. In addition, the No.1 Mk III Enfields sell for just over \$119, U.S.-made No.4 Mk I rifles are around \$180, U.S.-made Savage-manufacture drill-purpose No.4 Mk I rifles and No.4 Mk I Canadian Longbranch rifles are around \$130. These rifles are in well-used condition but not abused and with clean bores. If you get a nice No.4 Mk I or No.1 Mk III, new, unissued stocks are available from AIM Surplus.

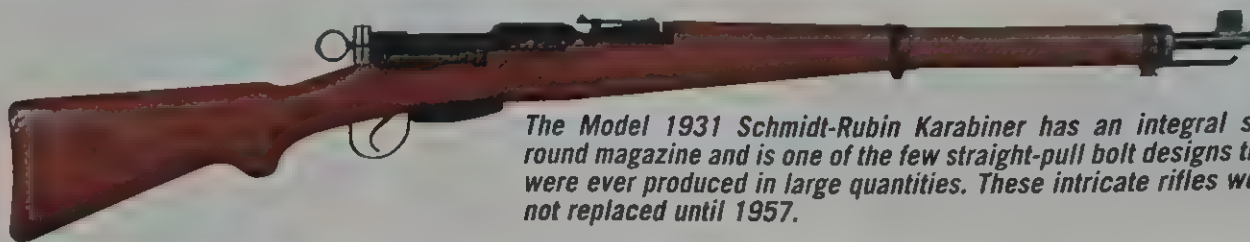
One of the most overlooked of surplus firearms is the beautifully made Swiss Schmidt Rubin K31 rifle. The Schmidt Rubin K31 is the last in a series of rifles that began manufacture in 1911. It has a unique straight-pull bolt handle and is well known for extreme

accuracy. These very good- to excellent-condition rifles in 7.5 Swiss caliber come with original slings and muzzle caps and are going for around \$79. Swiss GP11 7.5 Match ammo is also readily available, so finding ammo for these wonderful shooters is not a problem. The workmanship and quality that went into the making of these rifles are second to none. They are beautiful mechanisms, much as you might expect a Swiss-made watch to be. The more modern Swiss semiauto M57 replaced these rifles in the Swiss arsenals.

Next up are the Russian Model 91/30 7.62x54R Mosin-Nagant rifles and rarer Model 1938 carbines. Those that I've seen were made at the Izhevsk or Tula arsenals. These famous Russian firearms are going for between \$60 and \$70 and come with slings, bayonets, oilers and cartridge cases. While most of the bores on these show some wear due to the corrosive primers used in the early ammo manufacturing process, outside condition of these is very good. And I've seen a few that look almost new. These rifles are good shooters, and 7.62x54R ammo is readily avail-

able these days at a reasonable price. Silver Bear offers 7.62x54R Russian commercial ammo that came on the scene a number of years ago and has become quite popular due to a good price point, and also because they are making available Eastern Bloc calibers that hitherto had been more difficult to find. By the way, any number of Nagant accessories can be found at various surplus dealers. Excellent-condition "dog collar" slings and accessory kits, and even the very rare Polish M44 sling, are available. This, of course, fits all Eastern Bloc Mosin-Nagants.

If you're a fan of the British Empire and early surplus rifles, you might consider acquiring a Martini Henry rifle in .577-450 caliber from International Military Antiques. These are available in both the long- and short-lever versions. If any of you have seen the classic film *Zulu* with Michael Caine and Stanley Baker, you are familiar with some of the incredible history of these rifles. In January 1879 the British forces lost an entire command of 1,300 men at the Battle of Isandhlwana, where Zulus overwhelmed Her Majesty's forces. What you usually



The Model 1931 Schmidt-Rubin Karabiner has an integral six-round magazine and is one of the few straight-pull bolt designs that were ever produced in large quantities. These intricate rifles were not replaced until 1957.



Unissued, brand-new-condition original Yugoslavian 7.62x39 SKS rifles have folding bayonets and built-in grenade launchers. The teak stocks on these new rifles are very nice and make for an exceptional value.

don't hear is that before being overrun, these gallant British forces dispatched more than 2,000 charging Zulu warriors with their Martini-Henry rifles. Shortly after this, at the famous battle of Rorke's Drift, portrayed so well in the film, a much smaller contingent of troops actually won the respect of the Zulus for dispatching so many of their warriors so efficiently with these great rifles, and the Zulus honored their bravery and valor by leaving the battle and allowing the beleaguered and hugely outnumbered troops to survive. Available models include the P1871 Short Lever and the P1880 Short Lever. After experiencing some difficulties in extracting spent cartridge cases because of powder fouling within the chamber, the British War Department lengthened the lever to allow a more robust ejection of the cartridge. This P-1885 Long Lever version worked well but was fated to be replaced only three years later when the .303-caliber P1888 Lee-Netford magazine-fed rifle was introduced. These wonderful historical surplus rifles can be had with the P1876 socket bayonet, the P1876 Mk I bayonet with

a steel-mounted scabbard, the P1887 Mk I with a brass-mounted scabbard, the P1887 Mk III bayonet also with either steel-or brass-mounted scabbard and the P1887 Naval Issue Mk III sword bayonet. These are marked "Wilkinson Sword Company London WD" and its broad arrow and the brass-mounted scabbard. These are very fine collectibles and are sure to be snatched up at prices between \$500 and \$1,000.

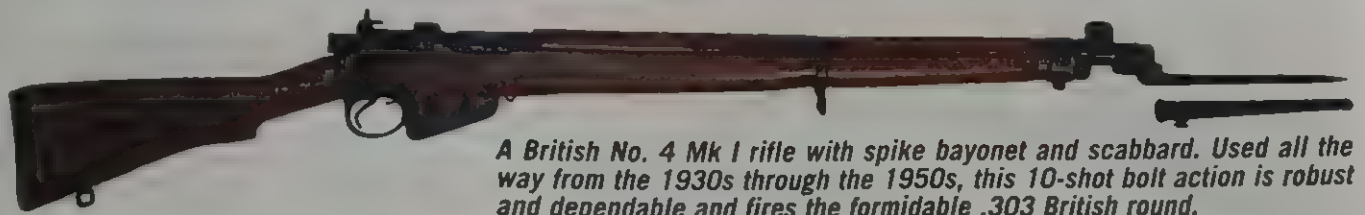
Earlier I mentioned that the days of those wonderful inexpensive M1 Carbines has passed. But the M1 Garand rifle in .30-06 can still be found at very reasonable prices, and I would be terribly remiss if I didn't mention that these great rifles can still be had from the Civilian Marksmanship Program (CMP) at very reasonable prices. The CMP is a non-profit corporation chartered by the United States Congress to promote firearms safety training and marksmanship. Proceeds from these sales are used to help fund CMP junior programs, shooting-club programs with clubs affiliated with the CMP and, of course, the famous annual CMP Camp Perry National Matches. If you are

interested in acquiring a Garand from the CMP, visit its website at www.odcmp.com, and it will send you a free catalog explaining the requirements for application. This is a great opportunity for all shooters to own a real piece of American firearms history.

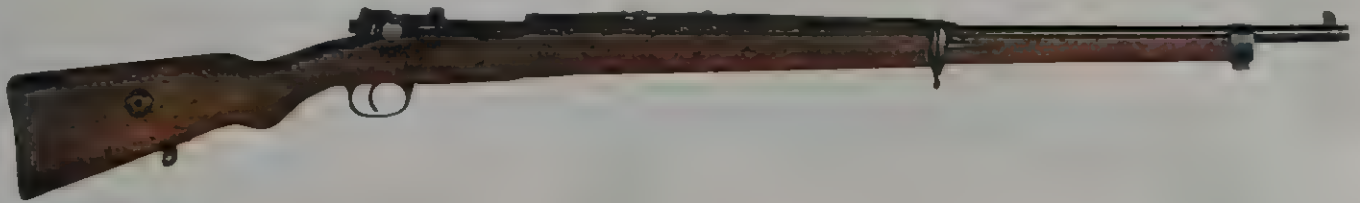
Samco has an exclusive on the Swedish M41B sniper rifle in 6.5x55 with matching-serial-numbered 4x90 Ajack scopes. These scopes feature the three-bar German Ajack reticle. Most of these were manufactured at the Carl Gustafs Stads Gevarsfaktori factory in Sweden, but a select few manufactured by Waffenfabrik Mauser Oberndorf, Germany, are available as well. I understand these come with the metal scope case and sling. Swedish M96 Long Rifles in 6.5x55mm and M38 Short Infantry rifles made by Husqvarna sell for around \$329.

Semiauto .308 Cetme rifles with newly manufactured U.S.-made receivers and barrels, and original parts from Spanish arsenals, are currently being offered at a very reasonable price. These rifles have new finishes with wood stocks and forearms and are gorgeous, to say the least. Cetme rifles are lim-

What's New in the Surplus Market



A British No. 4 Mk I rifle with spike bayonet and scabbard. Used all the way from the 1930s through the 1950s, this 10-shot bolt action is robust and dependable and fires the formidable .303 British round.



Turkish Mauser Model 1938s in excellent condition are being offered along with bayonet and scabbard—some with original leather frog. These are strong, good shooters.

ited in number, so if you have your eye on one, you'd better move quickly before they are all snatched up. The G3 is another version of this famous H&K design that is also offered. All feature a 16-inch barrel, some with the flash-hider and others without—your choice. Again, there are restrictions on these depending upon which state you live in.

FAL Sporter rifles with new barrels and metric-pattern magazines are offered from Century Arms at a price that is incredibly reasonable—around \$550 to \$579. Anyone who has ever fired any configuration of the famous FAL

has got to fall in love with the rifle. This author personally believes the FAL design is still the finest semiauto .308-caliber rifle in the world. I have owned four of them, and all were a joy to shoot.

Let's take a look at some of the surplus handguns that are currently being offered. The Polish P64 semiauto in 9x18 Makarov is very similar-looking to the Walther PPKS and was designed by Polish army officers in the late 1950s. These are good shooters, rarely available until now. They are selling for about \$130 with two six-round magazines. In addition, the Czech CZ52 pistol in 7.62x25 and

adopted by the Czech army in 1952 is now on the surplus market. These rather unique handguns feature a roller-locking, recoil-operated design originally employed in the design of the German MG42 machine gun. They can be had for around \$100 from Southern Ohio Guns with original holsters, cleaning rod, lanyard and two eight-round magazines. A factory-cutaway CZ52 can also be purchased for around \$170. These are pretty rare and are sure to go up in value as time goes by.

Bulgarian Makarov 9x18 pistols with holsters and two magazine are selling for between \$120 and

New Ammo Source

Graf & Sons, in conjunction with Hornady, has recently introduced a line of ammunition for many obsolete military weapons. The ammunition is loaded by Hornady with premium Hornady bullets and is available in the following calibers: 6.5x50 Japanese Arisaka, 6.5x52 Carcano, 7.5x55 Swiss, 7.65x53 Argentine, 7.7x58 Japanese, 8x56R Hungarian Mannlicher, 7.62mm Nagant, 9mm Steyr and .455 Webley Mk II. The brass is reloadable and accepts boxer primers.

Graf & Sons is also offering new brass for reloaders. In addition to the calibers above,

cases are available for 7.5x54 French, 7.62x54, .308, .30-06, .300 Win Mag, 7.92x33 Kurz, 8x50R Lebel, 8mm Lebel Revolver, .338 Lapua Magnum and 9.3x62 Mauser.

The company is also importing loaded rifle ammunition from Serbia and Montenegro (the former Yugoslavia) for many surplus calibers. Manufactured by Prvi Partizan, the ammo features boxer-primed, reloadable brass cases. Military calibers include 6.5 Carcano, 7.5x54 French, 7.5x55 Swiss and 7.65x53 Argentine. Most popular sporting calibers are also being marketed.

\$140, depending, of course, on condition. Silver Bear is supplying Makarov hollowpoint ammo for about 10 cents a pop.

Sarco Inc., always on the lookout for the rare and unusual, has found three Croation pistols that deserve mentioning. First is the ZC88. That's right, not CZ but ZC. Sarco refers to it as a "baby Tokarev" in 9x19 caliber. The "ZC" stands for the manufacturing company Zavodi Crvena. These are listing for \$195. Another Sarco find is the PHP, or "Privi Hrvatski Pivtolj." This apparently means "First Croation Pistol." It was based on the Walther P38 and developed in 1991. These are in 9x19mm and come in 4-inch and 5.25-inch barrel length. And finally, a small lot of H.S. 95 "Hr vatski Samokres," which means "Croation Pistol," are available. These feature a tilting barrel sys-

tem much like the Browning and look a lot like a SIG P220. They were also made in the early 1990s for the Croation conflict. The Croats had an active arms-manufacturing business during the war.

Surplus German P38 pistols in 9mm are now available from Century Arms in very good condition. These are beautiful pistols showing very little wear, with crisp markings and excellent finishes. If you've ever wanted to own a fine original P38, now is definitely the time to get hold of one. These won't last as collectors will surely grab them up, so remember the old adage: He who hesitates is lost. They are also being offered in special versions from Mitchell's Mausers.

As well, Century is offering the Soviet 7.62, Nagant revolvers. These old beauties are seven-shot and unique in design. The Nagant's ammo has the bullet

seated all the way inside the case, and upon pulling the trigger, the cylinder actually moves forward to seal the space between the barrel and cylinder. While this design accomplishes the seal, in reality this design feature did not actually result in any significant performance increase and fell by the wayside. These handguns are offered with holster and lanyard and also appear to have a very nice finish and be in excellent condition.

Even as this piece is being written, new arms, accessories and ammo are being ferreted out of warehouses throughout the world. It looks as though this surplus market is far from drying up.

A special thanks to Howard Sucher of Century International Arms and Danny Stone at Southern Ohio Guns for contributing to this article. ©

SOURCES

AIM Surplus

Dept. SF
P.O. Box 556
Springboro, OH 45066
(888) 748-5252
www.aimsurplus.com

Centerfire Systems

Dept. SF
102 Fieldview Dr.
Versailles, KY 40383
(800) 950-1231
www.centerfiresystems.com

Century International Arms

Dept. SF
1161 Holland Dr.
Boca Raton, FL 33487
(800) 527-1252
www.centuryarms.com

Graf & Sons

Dept. SF
4050 S. Clark St.
Mexico, MO 65265
(800) 531-2666
www.grafs.com

International Military Antiques

Dept. SF
1000 Valley Rd.
Gillette, NJ 07933
(908) 903-1200
www.ima-usa.com

Mitchells Mausers

Dept. SF
P.O. Box 9295
Fountain Valley, CA 92728
(714) 596-1013
www.mitchellsales.com

Old Western Scrounger

Dept. SF
50 Industrial Pkwy.
Carson City, NV 89706
(800) UPS AMMO
www.ows-ammunition.com

Samco Global Arms

Dept. SF
6995 Northwest 43rd St.
Miami, FL 33166
(800) 554-1618
www.samcoglobal.com

Sarco Inc.

Dept. SF
323 Union St.
Stirling, NJ 07980
(908) 647-3800
www.sarcoinc.com

Southern Ohio Gun

Dept. SF
250 Harmon Ave.
Lebanon, OH 45036
(800) 944-GUNS
www.southernohiogun.com

Zander Sporting Goods

Dept. SF
7525 Highway 154 West
Baldwin, IL 62217-9706
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www.gzanders.com

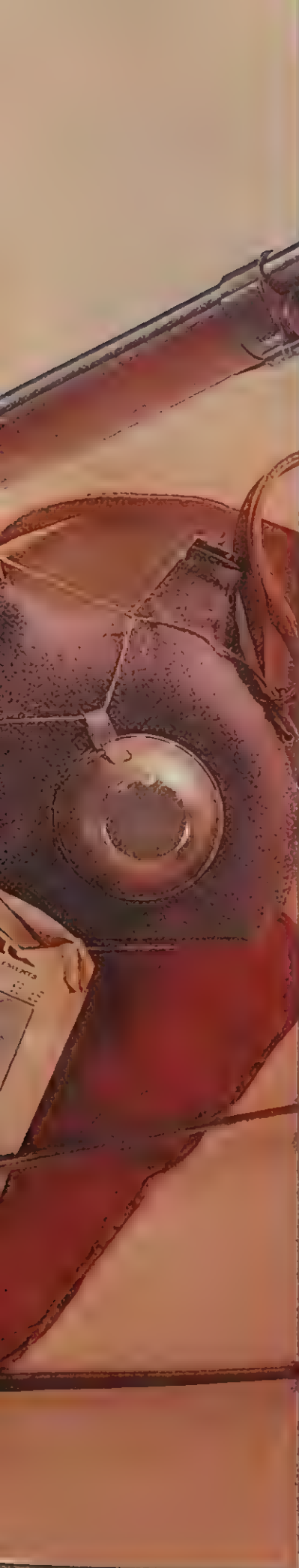
French 07/15 Berthier

The "other Lebel" was actually superior to its predecessor and won its spurs in the French trenches of World War I.

By Garry James



The 07/15 French Berthier was an excellent battle rifle and a popular supplement to the Model 1886 Lebel during WWI, despite the fact that its magazine held only three rounds.



Lynn Pedigo photos

It's interesting how some names stick, even though they really aren't right. For instance, to many people, every British revolver is a "Webley," even though it might be an Adams, Tranter or Thomas. The same holds true—to a greater or lesser degree—with Mauser and Springfield. But perhaps the most pervasive misnomer is that of the poor old French Berthier. Ever since it first appeared before the turn of the 20th century, it has been stuck with the appellation of its forebear, the Lebel.

Why this is so is a bit of a mystery. It's easy to put it down to ignorance, but I think what really solidified the error is that from the days of silent films, countless thousands of moviegoers have watched French Legionnaires tramp over Southern California sand dunes shouldering what is more often than not identified in titles or dialogue as a "Lebel."

To be fair, the Berthier chambered the same 8mm round as the Model

1886 Lebel, and there are some similarities such as bolt configuration, and the fact that later infantry variants can be fitted with a common M86 bayonet. But it pretty much stops there.

By the latter part of the 19th century, France had become a real power. Having learned many lessons following ignominious defeat by Prussia in 1871, the Republic boasted one of the largest standing armies in the world,



Despite hang-fires and failures-to-fire, 100-yard rested groups ran in the three-inch range. The ammo? Original 1930s French-issue fodder with 197-grain spitzer bullets.

French 07/15 Berthier



Ammunition for the Berthier is contained in a three-round sheet-steel clip.



The Berthier's rear sight (left) is graduated all the way to 2,400 meters but can be flipped over (right) to expose a 250-meter battle sight.

and efforts were being made to develop the most up-to-date arms and equipment.

In 1886 she confounded many enemies and detractors around the world by adopting the first general-issue smokeless-powder round. It was chambered in a more or less modern repeating rifle featuring an eight-round, underbarrel tubular magazine. Once the glitches were worked out, the *Modele 1886 Lebel* proved to be a relatively reliable arm that chambered a ballistically impressive—but rather chunky—rimmed cartridge.

As effective as the Lebel may have been, its magazine setup left much to be desired for cavalry use, and work was undertaken to come up with a substitute that could be managed

more effectively on horseback.

In 1890 a design of Andre Berthier's—a French-Algerian Railway official—was accepted and put into production. For logistics sake, it chambered the 8mm Lebel but employed a special clip setup loaded through the top of the action in the Mannlicher fashion.

Unfortunately, because of the girth of the chosen cartridge, it was only possible for the *Carabine de cavalerie Mle 1890* to hold three rounds, and even then the stock had to be configured with an extended, rounded lower portion to accommodate all three.

The first production model of the Berthier (also called the Mannlicher-Berthier) had a turned-down bolt handle, a 17.7-



To expel a full or partially loaded clip, press forward on the release button on the inside front of the triggerguard.

inch barrel and a weight of some six pounds. The bolt—modeled after that of the 86—was a two-piece affair with front lugs that locked into the receiver ring vertically (instead of horizontally) to allow proper feeding of the cartridges from the clip. There was no provision for a safety, though there was a half-cock notch used for practice dry-firing.

To operate a Berthier, the clip is first pressed into the magazine against a spring-loaded follower and then locked into place. Closing the bolt feeds a round into the chamber. When all cartridges have been expended, the empty clip drops clear of the rifle from a port in front of the triggerguard. Inside the front bow of the guard there's a button that allows the clip to be released up through the action if necessary to clear the rifle. The bolt must be pulled all the way back to properly load or unload the clip.

As it turned out—meager magazine capacity aside—this setup worked very well. Authorities were pleased and in short order rustled up a few other Berthier variants, including a *Gendarmerie* carbine, an artillery musketoon and even a *Cuirassier Mle 90* with a leather buttplate to enable mounted troopers to fire the rifles off heavy steel breastplates.

The carbines were such win-

ners that in 1902 French authorities decided to offer a longer, infantry Berthier, and the Fusil de Tirailleurs Indo-Chinois Modele 1902 was born. Primarily issued to colonial native troops in French Indochina, it had a 25-inch barrel and weighed eight pounds. These dimensions were somewhat shorter than those of the standard infantry Lebel to accommodate the shorter stature of the soldiers. Original *Mle 1902s* are quite scarce and rarely seen today.

Buoyed even more by the success of the '02, five years later the French issued a full-length, 31-inch-barreled "Colonial" Berthier (also called the *Tirailleur Senegalais*). Like the carbines and the '02, this '07 had a turned-down bolt handle.

With the onset of the Great War in 1914, France found herself woefully short of 86/93 Lebel, so the decision was made to also issue a variant of the '07, which was modified to handle the standard infantry epee bayonet. Christened the *Fusile Mle 07/15*, thousands were manufactured and issued during WWI. French ordnance officials also contracted with Remington in the United States to produce the 07/15, and several thousand were manufactured but ended up being made too late and ultimately staying in the U.S. to be sold commercially on the surplus market. Except for the guns purchased by motion picture studios, it's not uncommon to find these Remington Berthiers in as-new condition—like the one I obtained for use in this article.

It was soon realized that three shots wouldn't cut it in the trenches, so the Berthier was modified with an extended sheetmetal magazine to accommodate a five-round clip, giving the *poilu* the same firepower as his German adversary.

My evaluation rifle was a minty 07/15 fitted with a standard ladder sight graduated to 2,400



To load a Berthier, press a clip of ammo into the magazine through the top of the action. When all three rounds are expended, the empty clip drops from the bottom of the action Mannlicher-style. New brass is available from Graf & Sons.

meters, which could be flipped 180 degrees to reveal a 250-meter battle sight. The front sight was a simple thin blade.

The trigger broke at seven pounds, after about 3/8ths of an inch of takeup. Fit and finish was superb, from the well-formed full-length walnut stock to the blued and bright metal parts. The bore was perfect. (As an aside, while one might expect a product made by Remington to be pretty well turned out, I've seen some 07/15s by France's St. Etienne arsenal that are put together just as well.)

In the past, 8mm Lebel ammo has not been particularly easy to come by, though I now understand that The Old Western Scrounger (Dept. SE, 50 Industrial Parkway, Carson City, NV 89706) is loading ammo suitable for Berthier use. This ammo does not have the O-ring crimp needed to deflect the pointed spitzer bullet away from the next round's primer, so it's not safe to use in the tubular-magazine 86 Lebel.

In any event, I've had a pretty good stock of 197-grain 1930s-vintage original French fodder kicking around in my garage for some time, so for authenticity's sake, I thought it might be fun to

give it a go. In retrospect, this probably wasn't the best decision, for out of every round that worked, at least two failed to go off or hang-fired. Still, when it did go boom, accuracy turned out to be pretty good, and I was able to achieve rested three-inch 100-yard groups with little trouble.

The gun functioned beautifully, chambering and ejecting without a hitch. After three shots had been expended, the clip dutifully dropped out the bottom of the mag to land right at my feet where it could be picked up and used again (three-round Berthier clips can be a tad hard to come by nowadays). Recoil was very light, and the sights were certainly more than adequate for the purpose intended.

With the exception of the limited mag capacity, the 07/15 Berthier would not have been a bad rifle to be armed with. Frankly, I'd take it over the '86 Lebel any day of the week—and many French soldiers did just that.

Fortunately, there are still a lot of these guns around at fairly reasonable prices. With the availability of some modern ammunition, they can again be put into service—this time providing fun at the range rather than death in the trenches. ©

The Broomhandle Mauser

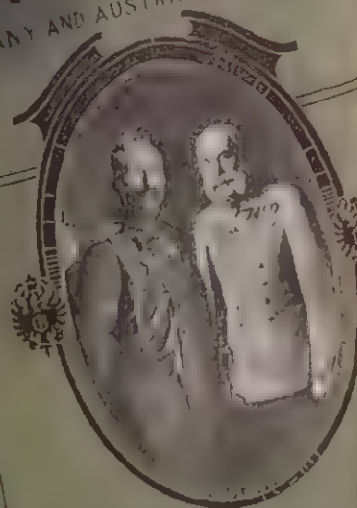
Sleek, sinister and instantly recognizable, this milestone auto is still unsurpassed for sheer mystique and mechanical intricacy.

By Dennis Adler




The Mauser Broomhandle is often associated with the Central Powers of WWI: Germany, Turkey and the Austro-Hungarian Empire.


WAR ECHOES
GERMANY AND AUSTRIA IN THE CRISIS



BY
GEORGE W. HAL A.M.



When you see a Broomhandle Mauser, images of nefarious characters, dimly lighted cafés and European intrigue start playing in your mind's eye like an old Humphrey Bogart film. The Broomhandle is the classic handgun profile of the early 20th century, the favorite of both the good guys and the bad, and can be traced to more movie plotlines than Kevin Bacon.



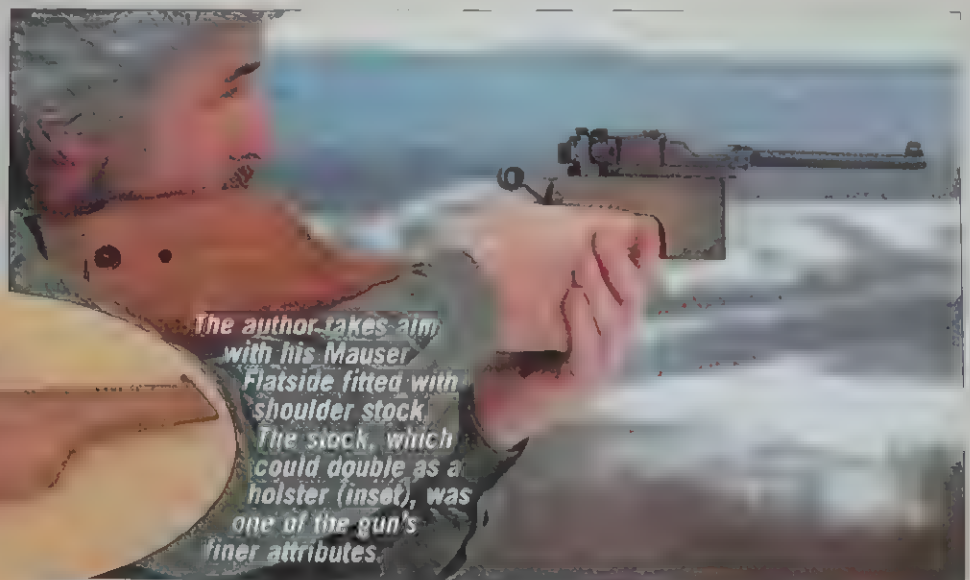
For more than 50 years it has also been the ideal otherworldly weapon, the perfect blaster for Han Solo in *Star Wars* and, with various embellishments, the inspiration for every science-fiction ray gun since *Forbidden Planet*. The Mauser is about as romantic as guns get.

The Broomhandle was also among the first and most innovative semiauto pistols of the 19th century. Its origins date back to 1895, when Peter Paul Mauser test-fired the first example on March 15.

The design of the Broomhandle was inspired by the early success of the Borchardt C.93 pistol and of the various self-loading models produced by Theodor Bergmann. As noted by firearms historian Edward C. Ezell, "Most of the credit for creating the C.96 goes to

the three Feederie brothers—Fidel, Friedrich and Josef," who were Mauser employees. Fidel was superintendent of the company's experimental workshop and, along with his brothers, had been developing a self-loading pistol since 1893. As the 19th century neared its end, Paul Mauser came to the conclusion that the future of the handgun belonged to the self-loader, and he gave the Feederie brothers' project his blessings. Two years later, on December 11, 1895, a design patent for the C.96 was granted to Waffenfabrik Mauser.

Just over 100 examples of what Mauser referred to simply as the Pistole 7.63 were completed in 1896. An intricate design, there was only one screw used in the entire gun, and that was to attach the grips; the operating mecha-



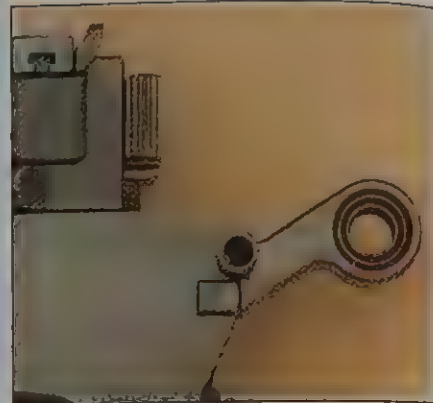
The Broomhandle Mauser



The Broomhandle evolved over a period of 43 years. Shown with the '02 Flatside (center) are a Model 1930 commercial (below) and a Model 1930 Bolo (above).



This image shows the bolt in its locked-back position. The two grooves in the bottom are where the locking bolt engages on lockup. The firing pin is the small cylinder inside the bolt.



The Flatside Broomhandle employed a small ring safety lever, which, when pushed down, locked the hammer. If cocked, as shown, this allowed the gun to be carried cocked-and-locked.

nism of the Mauser autoloader was composed totally of interlocking pieces that fit together like a Chinese puzzle. (Ironically, the Chinese government adopted the design in the 1920s and began producing copies.)

The pistol featured a locked-breech design with a rectangular bolt that moved within the square section of the barrel extension, forged as a single unit with the barrel. Beneath the bolt, attached to the barrel extension was the locking piece, comprising a steel block with a locking lug that engaged a slot in the lower surface of the bolt. (Sometime in late 1896 the bolt and locking piece were modified to have two corresponding slots and lugs. This remained unchanged from 1896 to 1939.) The locking piece was raised and lowered as it moved along an incline milled into the frame.

The bolt, locking block and barrel extension recoiled together for a distance of about .2 inch before the locking piece began to descend the ramp. As it dropped, the bolt was unlocked and permitted to continue its rearward travel separated from the barrel extension (at which time the spent shell casing was ejected and the hammer recoiled).

As the bolt and barrel extension closed, the locking piece was

forced up into the locked position by the inclined plane. The C.96 also introduced a "hold-open" feature to keep the bolt locked after the last shot had been fired, thus facilitating a quick reload.

Series production of the Broomhandle began in April 1897. The earliest examples featured the so-called conehammer design and had milled side panels. Two years later, the second production models were introduced featuring a number of changes, not the least of which were the smooth sides on the lower frame, leading to the designation by collectors as the "flat-side" model.

Another change to the original C.96 design was a phasing out of the small cone-type hammer for a newer design with a large head, flat sides and a large hole rimmed by two rings. The hammer was both distinctive in appearance and easier to cock. Serial numbers for the second-production models began at about 20,000 and concluded at around 30,000 in 1902. The serial-number range from 14,999 to 19,999 was not used to compensate for the Italian navy contract models, which were produced in 1899 in a special serial-number range of 1 to 5,000.

The example pictured herein is a Flatside produced in 1902, serial

number 28,631. These later models are distinguished by a "50-1,000" adjustable rear sight with 15 notches, whereas earlier models had a "1-10" rear sight with 10 notches. The later Flatsides (beginning with serial number 23,887) comprised the greatest number of pistols manufactured in the second series, concluding with serial number 30,154 in mid-1902.

The standard barrel length for this model was 5.5 inches, and the guns were fitted with distinctive hardwood grips bearing 23 grooves. All Flatsides had a safety lever on the left rear of the frame, actuated by pushing the lever downward into a notch. This either locked the hammer so it could not be cocked or, if cocked, blocked the hammer so the gun could not be discharged.

In addition to the Italian contract and production Flatside models in the standard version, Mauser also produced a smaller, fixed-sight Bolo Flatside with a 3.9-inch barrel and either a standard 10-round capacity or a more compact six-shot abbreviated-magazine model. All early-production guns were chambered in 7.63mm Mauser. Later models were also available in 9mm Parabellum, and within the Model 1930 series both 7.63 and 9mm

chamberings were offered.

As the design evolved, there were numerous improvements. There was the Third "small ring hammer" production model (1902-1905) and Fourth production model (1905-1910), the latter reverting to the original 1896 milled frame design. Then there was the introduction of six-groove rifling beginning in 1910, an improved safety mechanism introduced in 1915 and the Model 1930, featuring the new universal safety mechanism.

The Model 1930 remained in production from its introduction to 1939. The *Neues Sicherung* mechanism, which was denoted by an intertwined "NS" on the back of the hammer, allowed the hammer to be dropped in the Safe position without discharging the gun. This marked the final evolution of the Broomhandle, although the pistol was also offered with a 20-round magazine, in a carbine version and as a full-auto Model 712 *Schnellfeuer* ("fast firing"), produced from 1931 to 1938.

By the late 1930s more than a million Broomhandles were in use. The Second World War, however, brought an end to German production as simpler designs pushed the Mauser out of the limelight.

During their 43 years of production Broomhandles were carried by adventurers the world over, including a young Winston Churchill, whose sidearm during the Anglo-Boer War of 1899-1902 was a Mauser Flatside. Many were imported into the U.S. The average U.S. retail price before WWI was \$25 to \$30. Today a Flatside in 98 percent condition will bring up to \$3,000.

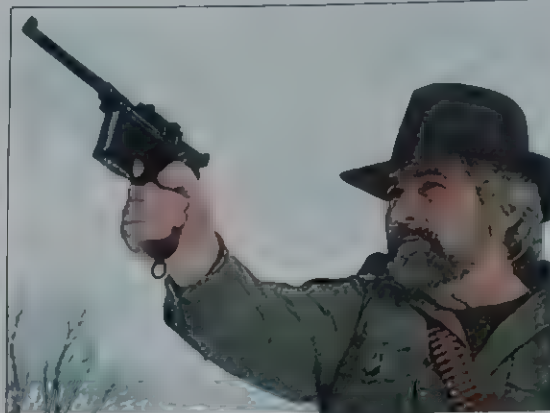


The stripper clip is inserted into the guides on top of the barrel extension at the rear of the magazine well. The cartridges are then pressed into the magazine with the thumb and the stripper clip removed.

Mauser also produced thousands of C.96s for Italy, Turkey, Persia, Austria, Finland, Norway, Indonesia and China.

My 101-year-old specimen was in remarkable condition, retaining 98 percent of its original finish and exhibiting very little wear. The action was crisp, with just enough takeup in the trigger to make semiauto operation comfortable.

Test groups were fired freehand at 10 meters using a Birchwood Casey Shoot-N-C target. My best effort was five rounds in the X with four connecting vertically $\frac{1}{16}$ inch from center to center. This was repeated in the 9-ring, placing three shots together, but there always seemed to be a flyer or two. At 25 yards my hits looked like the old Dr. Pepper symbol—10, 2 and 4. Cranking up the adjustable rear sight to its maximum of 1,200 meters would require a degree of optimism. My Mauser, however, never suffered a malfunction and easily consumed a box of 88-grain Fiocchi 7.63 ammo.



There is a forceful recoil to the 7.63 Mauser as the bolt slams rearward to extract the spent shell case and cock the hammer. The design places the metal edges of the frame into the web of your hand. If any gun needed a better grip design, this was it.



The author managed a few respectable off-hand groups at 10 meters. The holes with the widest spread were shot at 25 yards. The Broomhandle functioned flawlessly with 88-grain Fiocchi FMJ ammo.

The Broomhandle's center of gravity is forward of the trigger, which reduces muzzle jump. Recoil is linear, with the mass of the bolt slamming back over the hammer, thus delivering its energy into the grip and driving the edges of the frame into the web of your hand. Aside from that, the Broomhandle remains one of the most alluring pistols in the world.

Now that's romantic!

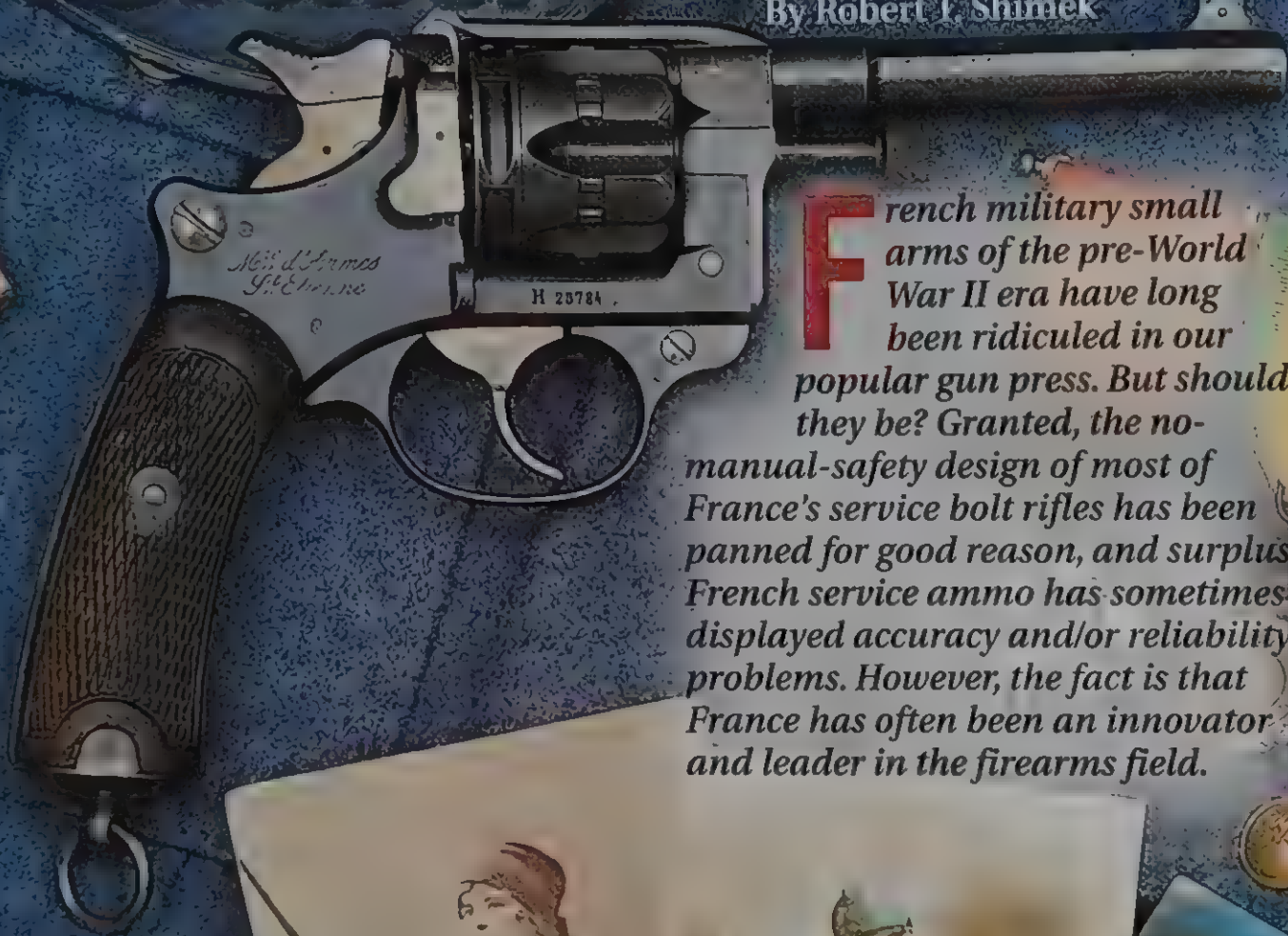
The author would like to credit the following sources: Handguns of the World, Edward C. Ezell; Know Your Broomhandle, R.J. Berger; and the Twenty-Third Edition Blue Book of Gun Values, S.P. Fjestad.

©

The Classic French M1892 Ordnance Revolver

During its 30-Plus years of production, this sturdy little piece saw plenty of action.

By Robert T. Shimek



French military small arms of the pre-World War II era have long been ridiculed in our popular gun press. But should they be? Granted, the no-manual-safety design of most of France's service bolt rifles has been panned for good reason, and surplus French service ammo has sometimes displayed accuracy and/or reliability problems. However, the fact is that France has often been an innovator and leader in the firearms field.



Every gun enthusiast knows that as early as 1886, France was fielding the world's first successful small-bore smokeless-powder rifle cartridge, the 8mm Lebel, as well as a bolt-action repeating rifle to fire it. But did you know that as of 1858, while we Americans were still fussing with our agonizing-to-load cap-'n'-ball revolvers throughout our services and would continue to do so for another 15 years, the French navy was issuing a bigbore pinfire-cartridge revolver in the form of the Lafauchaux?

And were you aware that as of 1873, when we thought Colt's slow-shooting Peacemaker represented the *ne plus ultra* of service revolvers, France was fielding a bigbore double-action revolver—her own "Model of 1873"—that in a close-range emergency could be emptied as fast as the shooter could manipulate the trigger? Many years later, France would become one of the first Western European nations to widely issue a semiauto rifle, in the form of the MAS M1949. Hence, today's reviewer does well to think twice before panning France's small arms out of habit.

The French Model of 1892 Ordnance revolver is a beautifully crafted, sturdy little item that saw service in two World Wars, plus countless lesser ones, and remained in production for more than 30 years. One could not help but wonder how good or bad it really was.

A bit of study revealed how the gun came to be. By the last decade of the 19th century, France succumbed to the smallbore craze that some other European countries were experiencing and decided to replace its 11mm DA revolver with something more modern. There were problems with France's Model of 1873 that made this need more pressing: First, this bigbore arm sent out its bullet at extremely low velocity. Second, the M1873 revolver could not be readily adapted to smokeless-powder cartridges.

The result, after several developmental steps, was the M1892 dou-



Along with the model designation, Model 1892 barrels were marked with the year of manufacture.

ble-action revolver, chambered for the 8mm French Ordnance Revolver round. This cartridge was originally loaded with black powder, but the gun transitioned easily to smokeless-powder loadings when such began to appear. The cylinder showed six chambers (though the *NRA Firearms Fact Book, Third Edition* advises today's shooters that double-action revolvers designed before or during World War I should be carried with an empty chamber under the hammer for safety's sake).

The M1892 showed a variety of engineering improvements over the M1873. Most notable was its swing-out cylinder (the first to appear on a French revolver), which—in contrast to most U.S. DA revolvers—swung out to the right rather than the left. The reason for this was that cavalry use was anticipated for the gun, and it was intended by the designers that the gun should remain in the horseman's left hand for reloading, rather than having to be switched to the right (sword) hand.

Also notable was the cylinder lockup system: When the trigger was forward and the cylinder latch was closed, the cylinder was prevented from rotation by a cylinder stop that rose from the floor of the frame cutout to engage the slot formed by the two rectangular projections located between each flute on the cylinder's exterior. The instant the trigger was started backward, however, this stop disengaged, and a second stop, located aft of it, rose from the frame cutout



Empty cases are ejected by simply pushing in on the ejector rod to activate a star extractor.

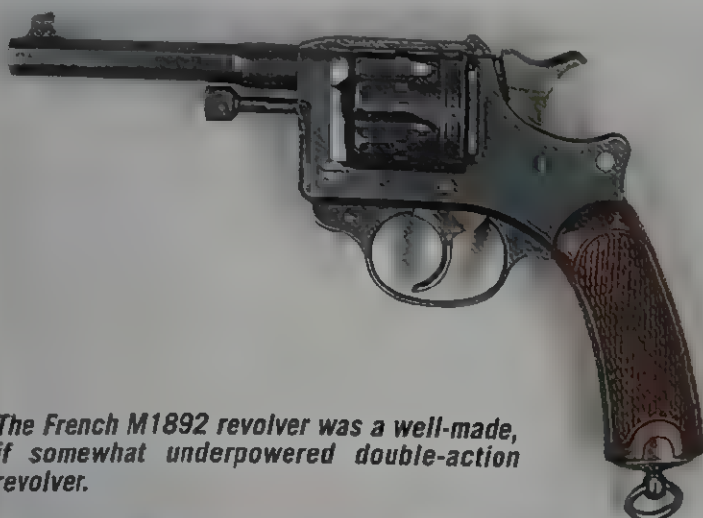
to engage the conventional notches at the rear of the cylinder to lock the cylinder in place for firing. Both stops were integral with the trigger; the forward stop would also disengage anytime the cylinder latch was opened. Simultaneous ejection—also new on French revolvers—was featured. Opening the cylinder was accomplished by pivoting the latch on the right side of the gun backward, then swinging the cylinder outward. The M1892 featured a hammer that rebounded after each shot.

Interestingly, the gun also included the "Abadie system" in its design; with the Abadie system, when the cylinder latch was left fully open, the cylinder would rotate each time the trigger was pulled, but the hammer would not function. This had obvious utility in a gate-loading revolver, facilitating the loading process, but in a swing-out cylinder locked in place, its presence seems useless.

What's more, in the test gun the cylinder was prone to unlocking itself and swinging slightly outward if it was rotated "Abadie style," which would seem a good way of ruining the lockwork. A prominent authority/author on French arms advises that the reason for retention of the Abadie system was that preproduction forerunners of the M1892 did not feature a swing-out cylinder, but were gate-loaders; when the switch to the swing-out cylinder came, it was deemed prudent from a tooling/economic point of view to leave the Abadie system in place rather than eliminate it.

Manufacture of the M1892 began

M1892 Ordnance Revolver



The French M1892 revolver was a well-made, if somewhat underpowered double-action revolver.



Model 1892s were carried in clamshell holsters. The holsters had pouches for packets of 8mm ammunition.

at the MAS (Manufacture d'Armes de St. Etienne) concern in the year of its designation. Production service guns were carefully fitted and polished, and they were finished in an attractive and carefully applied rust blue of only modest reflectiveness, which was appropriate to the gun's military mission. The hammer, trigger and other small parts were strawed or—in the case of the test gun—of polished in-the-white metal. Grips were of bordered and carefully checkered walnut.

Production MAS M1892's show the "M're d'Armes St. Etienne" legend in highly decorative script on the right frame flat. The "Mle 1892" legend appears on the top flat of the octagonal barrel in similar decorative script. The date of manufacture of the individual revolver is located on the adjoining barrel flat. The serial is to be found on the right side of the frame just below the cylinder

cutout. The overall effect was classy. Typically, issue was with a holster featuring a hard clamshell-style flap; the holster incorporated space for cartridge packets. Most guns were bought by the French army, though a French navy version, bearing a small anchor on the butt, is known. "Instructional" models, not intended for firing, were made; these allegedly bear either X-suffixed serials or the word "Theorie" on the frame flat. There is also a developmental M1892 revolver that retained the cylinder via a thick sleeve over the ejector rod rather than by the frame-mounted latch.

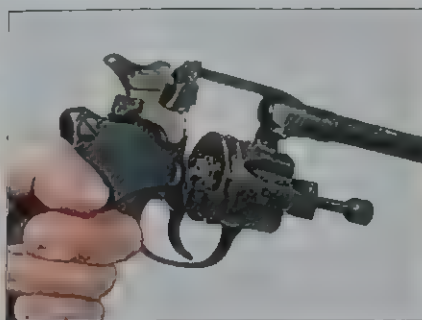
Production of the M1892 revolvers by MAS was not sufficient to answer the demands placed upon the French services by World War I; indeed, all handguns came to be in short supply during this period. A variety of expedients was tried, including the reissue of the old M1873 revolvers, the purchase of .32 ACP Savage auto pistols from the U.S. and even the importation and issue of all manner of cheap revolvers and .32 ACP "Ruby-pattern" auto pistols from makers in the Pyrenees.

In any event, underpowered or not, the M1892 survived World War I with its reputation intact and was built until the late 1920s, by which time almost 400,000 examples had been completed. What's more, it

remained a French combat weapon during France's short but valiant effort against Germany during World War II, and it is even reported to have seen service during the French colonial wars during the Cold War era. The successor to the M1892 in French service was the M1935 auto pistol, which was chambered for the "7.65mm French Long" cartridge, a smallbore round that gave better paper ballistics than the 8mm French Ordnance Revolver effort, though probably minimally better stopping power.

The evaluation M1892 French Ordnance revolver represented a 1912-completed example and was in excellent original condition, both in terms of external finish and internal mechanics. Anyone planning to fire an M1892 Ordnance revolver must, before introducing any ammunition to the gun, have the weapon thoroughly safety-checked by a competent professional gunsmith who is familiar with this arm. When taking the revolver to the 'smith, it is probably wise to supply some ammunition also since the round can be hard to find. As well as Fiocchi loads, 8mm French revolver ammo is available from the Old Western Scrounger.

Shooting the French M1892 revealed an arm that was only moderately accurate: Five consecutive shots from the 25-yard bench typically went into three inches center to center—sometimes a bit less, sometimes a bit more. The shooter—or at least his inability to cope with the M1892 sights and trigger—was most likely at fault for the mediocre groups. The front sight consisted of a prominent dot mounted atop a slender post. The rear sight was, well, weird. It was very difficult to gain a proper index of either windage or elevation (especially elevation) with sights of this pattern. The trigger represented a hassle, too; thought it was clean, in keeping with the high quality evident throughout the gun, it was also



What looks like a loading gate is actually a release that allows the revolver's cylinder to be rotated outward for loading.

too overweight for fine work.

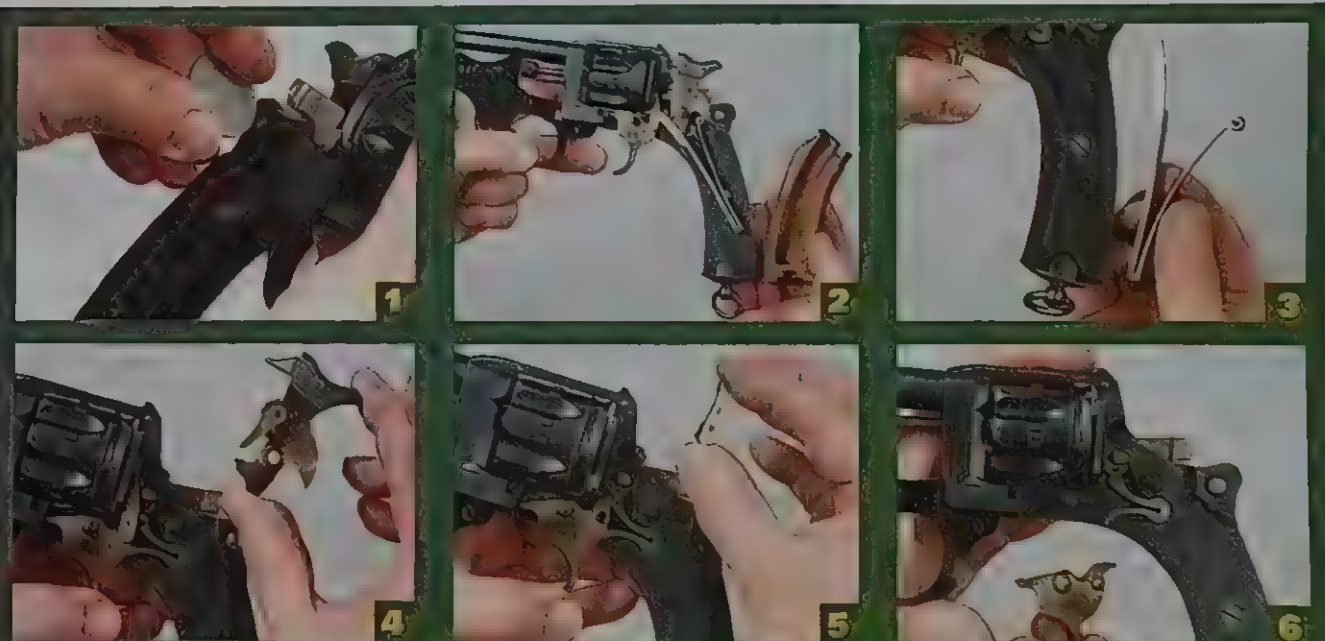
Fieldstripping an M1892 is easy. First, with the muzzle pointed in a safe direction, pivot the cylinder latch backward, swing the cylinder outward to the right, and check carefully to ensure that no cartridges remain in the gun. Next, unscrew the large captive disassembly screw located at the right rear of the frame just above the grip. When this is completed, the sideplate on the opposite side of the frame can be pivoted forward, exposing most of the gun's innards. Now lift out the left grip to expose the mainspring also.

In any report on a classic

revolver, I like to include information on removing the crane and the cylinder from the crane for cleaning, even though this seldom is necessary when modern noncorrosive ammo is used. However, I must report that according to two references I consulted (including *Gun Digest Book of Exploded Firearms Drawings, 2nd Edition*), removing the crane and cylinder, while possible, is not recommended. The process involves not just removing the crane screw but also using a punch to tap out the intricate flat-style crane spring from its recess in the frame. Since I suspect that few M1892 revolvers will be fired much

nowadays, and since too many historic handguns have been butchered by kitchen-table gunsmiths, my suggestion is that you have your gunsmith do the dismantling and cleaning of the crane and cylinder during that all-important safety check, then return to him if this work becomes necessary again.

If all this sounds overconservative, I ask you to recall that parts for the M1892—like the intricate flat-style spring—are all but unobtainable and that, as I just mentioned, probably more handguns have been damaged by improper fieldstripping and cleaning than by any other means. ©



To fieldstrip a Model 1892 French Ordinance revolver, first ensure the gun is unloaded. Then unscrew the large captive assembly screw on the right side of the frame (1), and rotate the sideplate forward to gain access of the lockwork. Remove grips (2). Remove mainspring by compressing it and unhooking it from the hammer (3). Remove hammer (4), pawl (5) and trigger (6). All parts are thoughtfully numbered in their disassembly sequence, so takedown is relatively foolproof.


SWEDISH MODEL 1896 MAUSER

This beautifully made 6.5mm tackdriver is a favorite with shooters and sporterizers.

By Robert T. Shimek

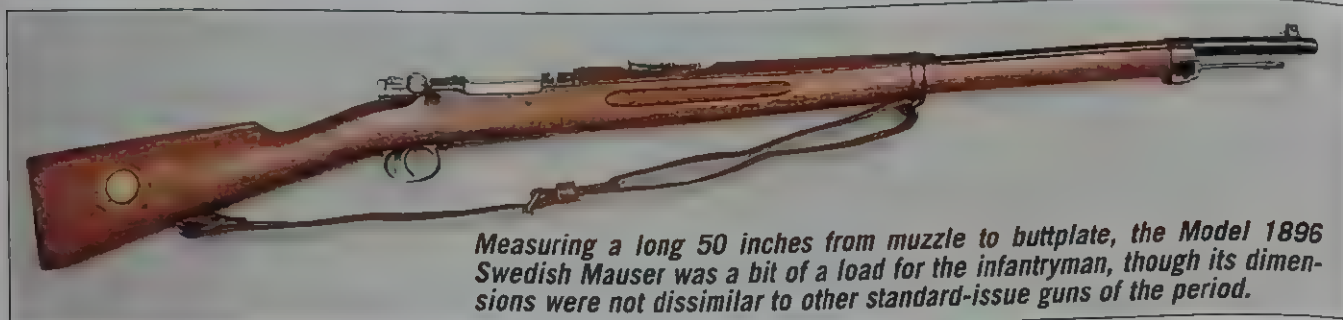
Some of yesterday's military bolt-action rifles were capable of astonishing accuracy. A good example is the Swedish Mauser M1896 Long Rifle. A Swedish Mauser in a good state of repair can average circa 1½-inch groups from the 100-yard bench as a matter of course. That's using factory (usually Norma) 6.5x55mm ammo and the gun's less than match-grade military open sights. Heaven knows what a Model 1896 Swedish Mauser will do with carefully developed accuracy handloads and a quality telescopic sight.





The Model 1896 Swedish Mauser is one of the world's most elegant, well-made military bolt actions. The quality of manufacture was up to the standard of most sporters of the period, plus it was supremely accurate—all in all, a real class act.

Swedish Model 1896 Mauser



Measuring a long 50 inches from muzzle to buttplate, the Model 1896 Swedish Mauser was a bit of a load for the infantryman, though its dimensions were not dissimilar to other standard-issue guns of the period.



The model 1896 was an excellent sniper rifle when topped with the German-made Ajack scope. Ajacks were also sold commercially and used by the German army.



Each 1896 bore the name of the manufacturer and the date of completion on the top of the receiver.

If this gives the impression that the Swedish Mauser was a class-act military rifle, such impression is correct. The gun was born early in the European service turnbolt era, at a time when the major factories lavished great care in fit and finish on their military-contract products. Research and development were progressing rapidly during this early smokeless-powder period, which was characterized by wide international interest in buying new service turnbolts.

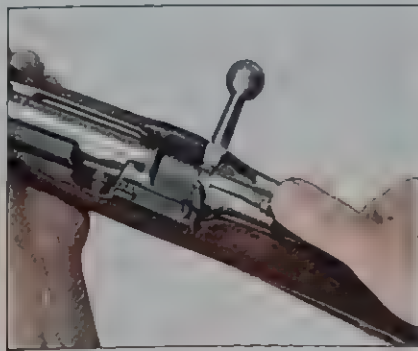
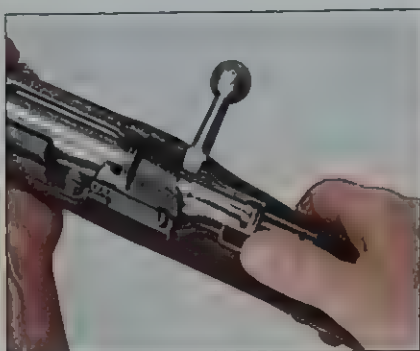
Mauser had achieved a marketing coup with its avant-garde 1893 "Spanish" action combined with its brilliant 7x57mm Mauser round. But the Mauser firm was not content to rest in triumph. Within a year, a brand-new action and cartridge were ready and were being previewed in a handy little service gun ordered by Sweden. The action

was the 1894, the cartridge was the 6.5x55mm, and the gun would become known as the M1894 Swedish Mauser Carbine. The action soon came to show need of a deepened thumb cut and a guide rib but otherwise was very pleasing. The cartridge, which demonstrated superb accuracy and moderate-class ballistics (initial loading involved a 156-grain bullet at 2,370 feet per second in full-length service-rifle barrels), delighted its Swedish buyers. The Carbine was unpleasant to shoot, thanks to its light all-up weight and short barrel, but a full-weight Long Rifle in 6.5x55mm promised to be gentler.

The result was the 29.1-inch-barreled M1896 Swedish Mauser Long Rifle, which—typical of general-issue rifles of the period—measured nearly 50 inches from muzzle to buttplate and weighed

nine pounds. This arm featured the same action as the 1894 Carbine but with the deeper thumb cut and the guide rib added so as to form the "1896 action." These improvements were later introduced in Carbine production.

The 1896 action, like the 1894 action, showed some engineering features taken straight from its 1893 "Spanish" Mauser predecessor: two opposed locking lugs, a double-column mag and a three-position manual safety that featured Fire, Intermediate (striker locked) and Safe (both striker and bolt locked) modes. New, however, was a unique mechanism intended—we think—to allow the shooter to safely decock his gun over a loaded chamber. This is said to have worked as follows. With the muzzle pointed in a safe direction, the shooter grasped a specially



The safety on the rear of the bolt was in Fire position to the left, had an intermediate striker-locking mode straight up and was on Safe when turned completely to the right.

shaped, knurled cocking piece in such a way as to resist spring pressure. Special care was required since the firing-pin top came to rest directly upon the primer of the chambered round. The safety had then to be rotated 180 degrees to the Safe position so as to retract the firing pin back inside the bolt and lock the firing pin in place.

The defect in this decocking system (if indeed it was a decocking system; some experts say it was a dry-firing system intended to be used in conjunction with a wooden block) was that there was no way to recock the firing mechanism without ejecting the round in the chamber. Another M1896 innovation—and an improvement over the M1893—lay in better protection of the shooter's eyes from hot gases in the event of primer or case rupture. German-made '93s had provided no venting holes; Swedish Mausers, or at least those made after 1897, featured at least one venting hold, and sometimes two or three depending upon vintage.

The M1896 was adopted at once and became Sweden's general-issue battle rifle (in contrast to the Carbine, which was exclusively for engineer and artillery units). The earliest guns were built by Mauser-Werke and showed the superb quality characteristic of that firm's peacetime products. However, the Swedes soon negotiated for indigenous manufacturing rights. These were acquired, and manufacture

commenced at two Swedish arsenals, Carl Gustav and Husqvarna. The Swedish guns were in every sense the equivalent of their German counterparts, being very carefully crafted of the best materials. The guns showed superbly polished "in the white" bolts that contrasted with rust-blued receivers. Some examples featured strawed small parts, and each arm was stamped over the chamber with the arsenal and year of manufacture. The stocks showed a marking disk, which I personally have never been able to decipher but which friends tell me reveals things like bore dimension, condition, etc. (Some Swedish Mausers would be rebarreled 10 times during their many years of service.)

The M1896s showed absolutely superb accuracy as a matter of routine, but some were more accurate than others, and of these exceptional pieces, a few were converted to sniper configuration courtesy of a telescopic sight, a leather cheek-piece, etc. These sniper guns, dubbed the Model of 1941, could probably qualify as being among the most accurate military rifles in all history. Other variations of the M1896 included a version shortened to "Short Rifle" specs (there would, in addition, be a standard-production Swedish Mauser Short Rifle called the Model of 1938). Furthermore, there was an M1896 version bearing a target-style rear-sight, a version threaded for use with flash suppressor, etc. M1896

combat service was limited by Sweden's strict neutrality policies, but some '96s succeeded in getting into action courtesy of sale to the Finns. These performed admirably in the 1939 Winter War. Other foreign M1896 customers included post-WWII Denmark, which had lost its service rifles to the Germans.

Swedish Mauser service went on for a very long time. A written source dated in the mid-1980s shows quantities of the sniper version still being held in reserve in Sweden. Guns sold off as surplus understandably became favorites among Americans shooters despite the relative difficulty in obtaining the 6.5x55mm cartridge in this country. Others were kept intact.

Nowadays, the '96 remains available as surplus, and the ammo situation has improved enormously. My personal favorite among the 6.5x55mm sporting loads I've chanced to try has been the Norma 156-grain Soft Point; it frequently emerges as the accuracy load in Swedish Mausers I've tried.

Shooting of the sample gun was preceded by a thorough degreasing and an exhaustive safety check by a competent professional gunsmith. These are necessary precautions before the shooting of any surplus firearm regardless of quality and condition. The test gun was a 1918-dated Carl Gustav product. Ammunition employed was the 156-grain Norma Soft-Point just mentioned.

Swedish Model 1896 Mauser

Accuracy was the salient shooting virtue. From the 100-yard bench, three consecutive five-shot groups miked 1.0, 1.75 and 1.9 inches, for an average of 1.55 inches.

I emphasize that these groups, fine though they be (some modern bolt-action sporters would love to do as well), were fired with the issue military open sights and by a shooter who is at that stage of visual life where 100-yard open-sight use is compromised. My sincere belief, acquired before the tears and visual straining came, is that this rifle represented a consistent sub-1½-inch grouper, perhaps in the 1¼-inch-average range.

A second plus was basic user-friendly shootability. The trigger was just about perfect. Once slack had been taken up, the moderately weighted let-off was totally creep-free. Recoil was gentle. The gun is not in the 6.5 Arisaka class for gentleness, but it is certainly milder than the average run of battle rifle. Even the sights, by military standards, weren't bad. The shooter gets a workable flat-topped front post coupled with an equally workable U-notch rear. This sighting equipment is far superior to what some other military Mausers featured.

A third positive trait was the sense of all-around quality. With the

Swedish Mauser, everything is steel forgings and selected hardwood. Articulating parts fit perfectly, and things click and clack in place. Bolt operation is smooth and effortless; the cocks-on-closing feature disturbs the effect but little. Virtually everything about the rifle is pleasant and reassuring.

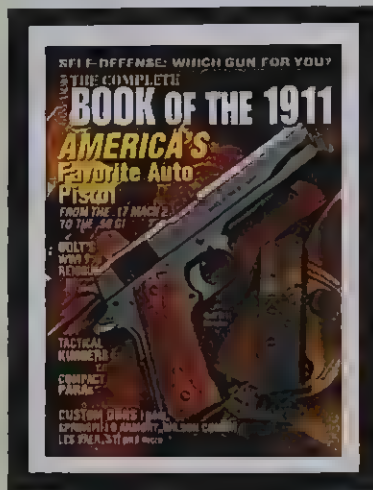
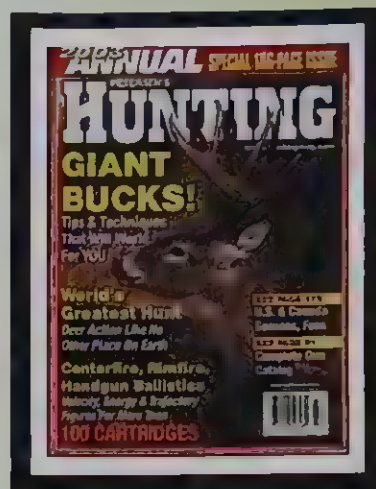
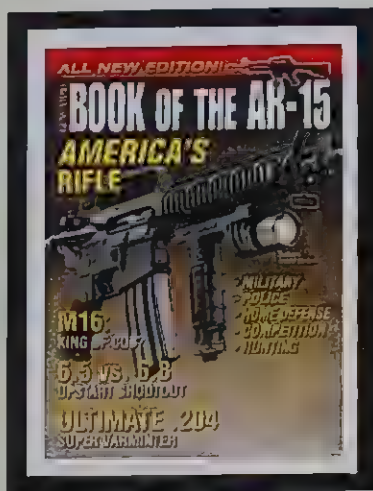
The sole vice is regulation. The sample M1896 printed in groups about a foot high from 100 yards. In my experience, this is the rule rather than the exception for M1896 rifles, which feature a minimum-300-meter sight setting. This may have served military purposes well, but it's a pain for the modern sport shooter. ©



To fieldstrip a Model 1896 Swedish Mauser, first open the bolt, and inspect the chamber to ensure the gun is unloaded. Reclose the bolt to cock the action, rotate the safety to its intermediate position (1), and reopen the bolt. Then, thumb the bolt stop outward, and remove the bolt (2,3). While keeping the manual safety in the intermediate position, unscrew the firing mechanism from the bolt (4,5). Rest the firing pin against a block of wood, grasp the bolt sleeve and safety firmly, and press down until the cocking piece clears the bolt sleeve (6). Rotate the cocking piece 90 degrees in either direction, and remove. Control the bolt sleeve and firing-pin spring as they rise off under spring pressure (7). Remove the extractor by rotating it until tongue clears the extractor groove, and press forward (8,9).

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THE M-1 CARBINE



Loved by some GIs, hated by others, this little .30-caliber semiauto is still a fun plinker and great collector's piece.

By Garry James

There are few firearms developed for the U.S. military that have received such mixed reviews as the M1 Carbine. Depending upon which vet you talk to, this handy little semiauto .30 was either the best or most execrable firearm ever given to the fighting man.

While I never carried one in combat (my military longarm experience was with the much more substantial M14), for a fun plinker and light-game-getter, the diminutive repeater is hard to beat.

The M1 Carbine was the brain child of David Marshall "Carbine" Williams. Williams, who formulated many of his firearms designs while serving a prison term for second-degree murder, has the distinction of being one of the only firearms designers to have a movie made about

him—*Carbine Williams*, starring James Stewart.

The M1 Carbine didn't spring full-blown from Williams' workshop, however. It was the result of considerable development by him and others. The whole story is somewhat protracted, and space doesn't really permit a retelling here, so we'll just touch on some of the highlights.

Basically, the M1 Carbine was developed in response to a requirement for a handy rifle to be carried by clerks, cooks, machine gunners, linemen and the like—soldiers who were not normally issued a pistol but to whom, because of the nature of their duties, the larger M1 Garand might be inappropriate. Though initiated in 1938, the request was shelved until 1940 when America's entry into World War II seemed imminent. In late 1940, a number of manufacturers were sent specifications and told to work up a light carbine. Winchester produced the round, a .30-caliber, straight-cased rimless cartridge that pushed its 110-grain, round-nose bullet out of an 18-inch barrel at some 1,860 fps.

After his release from prison, Williams made something of a



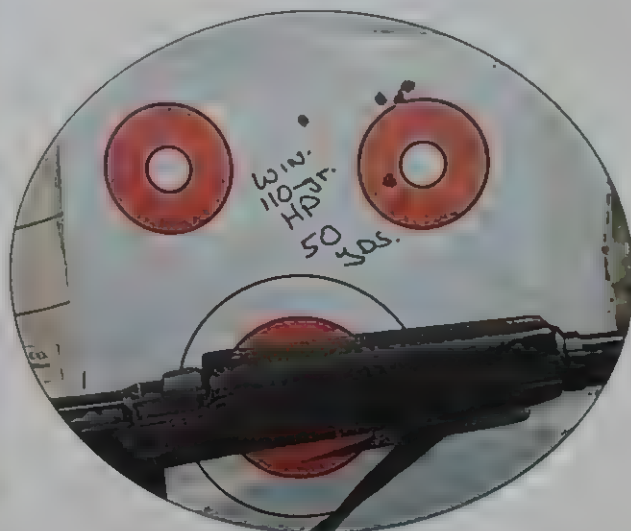
The M1 Carbine is a handy, handsome little rifle. Stopping power with the gun's .30-caliber round is about the same as a .38 Special. Recoil is nil and reliability good.

name for himself in the firearms files working for Winchester. His semiauto carbine, submitted by his employers, was the arm selected by the government as most appropriate to its needs. This attractive gun was simple and rugged. With a barrel length of 18 inches, an overall length of just under

three feet and a well-balanced heft of 5½ pounds, it personified the word "handy." Although the round didn't have the punch of the .30-06 chambered in the Garand, at least within reasonable distances it packed enough muscle to be a fairly effective combat round (110-grain FMJ bullet at 1,975 fps) with a relative stopping power of 16.3—about the same as

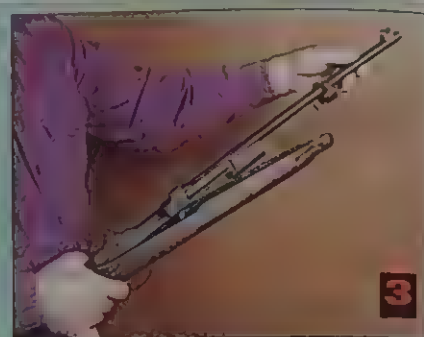


During the Second World War, many GIs slipped an M1 Carbine mag pouch over the gun's butt to provide ready access to more .30-caliber ammunition.



At 50 yards from a rest, our evaluation Winchester M1 provided 3¼-inch groups. All rounds fired hit high.

The M-1 Carbine



To fieldstrip the M1 Carbine, first remove the magazine, withdraw the bolt, and ensure the gun is unloaded (1). Next, unscrew and loosen the barrelband, depress the barrelband and spring, and slide them from the stock (2). Remove the handguard, and lift the barrel/action from the stock (3). Take the recoil spring, and guide it from the recess (4). Remove the trigger housing group by drifting out the retaining pin and pulling the group forward (5). Remove the operating slide rod by aligning lugs and notches, pulling upward and to the right, then turning the slide counterclockwise (6). Slide the bolt from the receiver by lining up the face with the receiver shoulders and rotating counterclockwise (7).



that of the .38 Special.

Designated the "M1 Carbine," the semiauto employed a clever, reliable operating system. When a round is fired, gas is tapped off into a gas port in the barrel. The port connects with a chamber containing a short-stroke piston that is forced back about one third of an inch. The piston pushes the operating slide to the rear, which in turn operates the rotating bolt to eject the empty case. A coil-operating rod spring forces the bolt forward, where it strips off and chambers a fresh cartridge from the 15-round, sheet-steel detachable box magazine. The forward motion of the slide also repositions the gas piston.

The M1 Carbine's production began in September 1941 with very few modifications to Williams' original design. Though the first guns were turned out by

Winchester, Pearl Harbor caused manufacture to be stepped up considerably. Contracts and sub-contracts were let out to a number of other makers including such unlikely firms as Rock-Ola (jukeboxes), U.S. Postal Meter, Quality Hardware, the Inland Division of General Motors and Underwood (business machines). Before the war's end, more than 6 million M1 Carbines had been turned out to supply an enthusiastic demand by American and Allied forces.

After World War II, M1 Carbines continued to be produced and remained in the inventory. When the Korean conflict broke out, they accompanied troops to Asia, where they received some of their severest criticism when the .30 Carbine bullets allegedly had a hard time penetrating the quilted Chinese uniforms.

During the Cold War years, thousands of the rifles were sent to various friendly governments, and many others were sold surplus to U.S. civilians throughout the DCM. Even surplus sales were not enough to satisfy the American public, so M1 carbines were made commercially by several manufacturers—including one in Japan.

There are so many variations to the M1 Carbine that the arm is a collector's dream. Add this to the fact that thousands have been brought back into the country in recent years, and you end up with a gun that is just about as popular today as when it was first issued.

Minor variations on the basic theme included such things as an early "I"-cut oiler/sling slot in the buttstock (as opposed to the later and more common rounded cut), an "L"-type flip-over rear sight

that evolved into a sliding adjustable ramped style, addition of a bayonet lug, rounded as opposed to a flat bolt, flip-type safety replacing a push button and scores of others too arcane to include here.

Major model changes were the M1A1, which employed a folding metal stock for airborne troops, the selective-fire M2 and the M3, which was an M2 modified to accept special infrared night-sighting units.

For our evaluation, we took a World War II-vintage Winchester M1 Carbine to the Petersen Ranch in Lake Elizabeth, California. Ammunition was Federal 110-grain hardball and Winchester 110-grain HPs. Chosen ranges were 50 and 100 yards as we felt the extreme 300-yard range envisioned by the gun's designers and indicated by the sighting setup was just a tad too optimistic for the rifle, cartridge and our eyes.

The 15-round magazine loaded easily by simply pressing in each round individually. There is also a stripper clip designed for loading, and though we didn't have any available for this test, I can affirm that they work extremely well and do cut down on loading time.

One chambers a round by pulling back on the operating handle and releasing it. The gun is now cocked and ready to fire. We found the trigger pull to be crisp and positive, breaking at just over five pounds.

Functioning was flawless, recoil virtually nonexistent and accuracy "military-good" with rested 50-yard spreads averaging 3½ inches and 100-yarders coming in at five inches, though all were high as the lowest aperture is supposedly regulated for 150 yards.

While we didn't do it on this excursion, in the past I have been able to ring a 200-yard gong pretty regularly offhand, using the 300-yard sight setting. We also



Early M1 Carbines had push-button safeties located just ahead of the trigger-guard. These were replaced by levers because soldiers would often miss the safety and hit the mag-release button in front of it.



The flip-up aperture rear sight on the early M1 Carbines were regulated for 150 and an admittedly optimistic 300 yards.

tried out the button-style safety, which is located just in front of the triggerguard. It worked fine (put left to fire, right for on Safe), though it was eventually replaced by the military as too many soldiers were mistaking the mag-release for the safety and dropping the magazines by accident.

The M1 Carbine has a small hold-open detent placed on the top of the operating handle. When the slide is fully to the rear, the detent can be manually pushed

down, where it catches in a slot milled into the receiver and keeps the action open. There are few guns I enjoy shooting more than the M1 Carbine. I have about a half-dozen in my collection of various styles and vintages and find them aesthetically pleasing (I still think it's one of the most handsome of modern military longarms), lots of fun to take into the field and loaded with history. That's a combination that's hard to beat in any firearm. ©

Model 1909 Argentine Mauser

To many collectors, this superbly made bolt-action military rifle represents the crown jewel of all Model 98 variants.

By Steve Comus

I can't recall the exact date in the mid-1950s, but I can remember what happened like it was last week. There, on a table at an Ohio gun show, was this beautiful rifle. It talked to me, and I listened despite my father's warning that there was no sense in buying some "foreign" rifle that shot ammo no one could get. But who ever said gun deals have to make sense?

At the time I had no clue that there was any difference in status between that pristine Model 1909 Argentine Mauser still in cosmoline and any other garden-variety surplus rifle. Yes, I knew what Mausers were, but I couldn't have discussed the differences among them. All I knew was that I wanted that rifle and was willing to put down the 40 silver dollars it took to walk away with it. I used silver dollars for all gun purchases during that era,

The heart of the Argentine Model 1909 is its large-ring Mauser action. This classic Model 98 variant exhibits fit, finish and workmanship that would be prohibitively expensive to duplicate on a modern production sporter.



Model 1909 Argentine Mauser



The author still shoots his Model 1909 and never fails to be impressed with its accuracy; the rifle is capable of 1¼-inch 100-yard groups (inset).

and 40 of them was a healthy price for a surplus Mauser. In fact, it was more than the rifle was probably worth on the market at that time, but the Mauser was in considerably better condition than most surplus rifles available during those years. Fortunately, the purchase also included a bag of corrosive military ammo. About half of the cartridges failed to fire despite fairly deep firing-pin indentations on the primer. But somehow that didn't really matter. The rifle shot well, looked great and functioned like a Swiss watch.

Although I've shot the 1909 Argentine extensively through the years, it's been used for nothing more exotic than putting holes in paper or busting dirt clods—but what a dream to shoot. It would be many years before I realized just what a great rifle I had purchased that fateful day.

Because 7.65 Argentine ammo was generally unavailable at the time, I was forced to begin reload-

ing centerfire rifle ammo, which was a blessing in disguise. It made me understand how firearms work in much more detail than I would've bothered to learn under other circumstances.

It wasn't long before I took simple reloading of Norma cases to another level. I purchased a form/trim die from RCBS and began converting .30-06 cases into 7.65x53mm brass—something that I continue to do to this day.

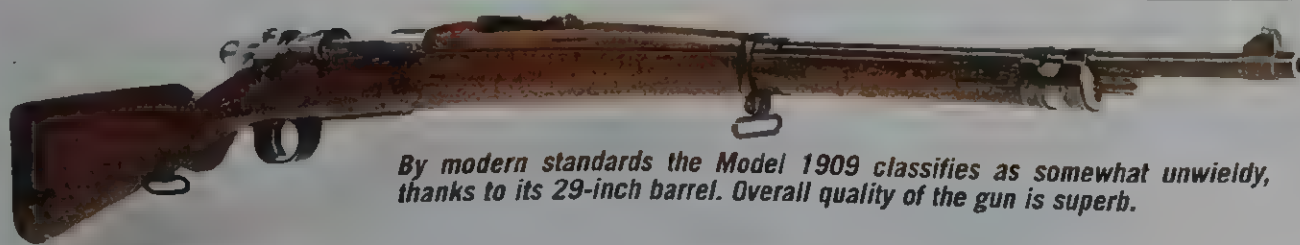
As full-length Model 1909 Argentine Mausers go, this particular specimen is typical of those imported during the 1950s, complete with the Argentine crest ground off the top of the receiver ring. Since then there have been many Argentines released with the crest intact. To me this has no particular meaning since I bought the rifle as a shooter, and it has exceeded all expectations in that department.

Accuracy? On a good day with

the open military sights I can put five shots into about a 1¼-inch cluster at 100 yards. There is no way I can suggest precisely how accurate this rifle is because I've never scoped it. However, for me this rifle is about much more than accuracy. It is an entire package.

Fit and finish of the metal parts is beyond mere imagination. Few custom rifles these days are better finished, both internally and externally. In fact, the 1909 Argentine action became one of the favorites of custom riflemakers for decades. This was because it was not only extremely strong but also dimensionally correct and consistent. Some of the finest custom rifles made have 1909 actions at their core.

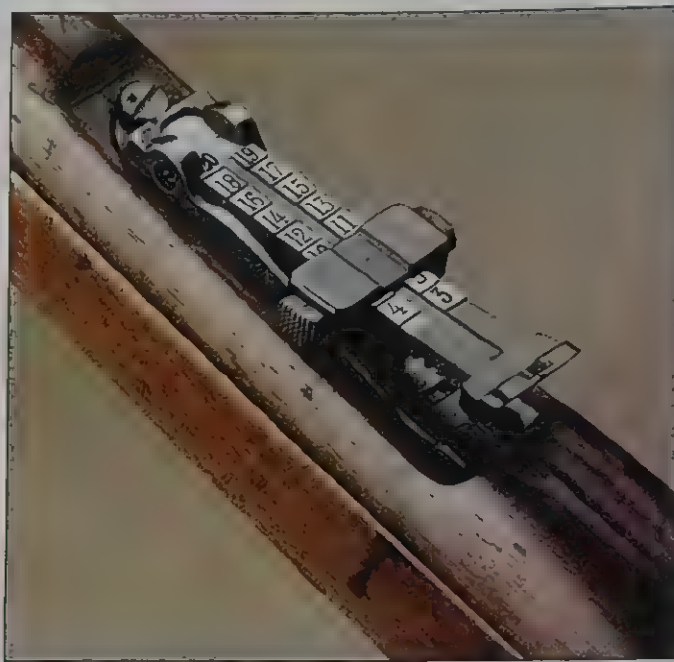
Yes, I was approached many times over the years by others who suggested that I do any num-



By modern standards the Model 1909 classifies as somewhat unwieldy, thanks to its 29-inch barrel. Overall quality of the gun is superb.



The 7.65x53mm Mauser (center) is flanked by a .30-06 (left) and a .308 (right). Ballistics of the Mauser round are similar to that of the .308.



The military rear sight of the Model 1909 Argentine Mauser is adjustable for elevation from the battle zero of 300 meters out to a rather optimistic 2,000 meters.

ber of things with the rifle to "make it better." The first was a common procedure in the late '50s, when small-town gunsmiths routinely reamed the chambers on Argentine Mausers for the .30-06. This procedure made no sense to me at the time, and it makes even less sense to me now. After all, the bore dimensions for the 7.65 round make it a true .31 caliber while the '06 is a true .30 caliber. Why would anyone want such a combination? I've never seen such a conversion shoot very accurately. Anyway, why fix something that ain't broke?

There were also those who suggested I use the action for the basis of a fancy custom rifle. But if I'd have wanted a custom rifle, I would have it built on an action that came from a surplus rifle with a bad barrel or from a new commercial action. The days of converting military-surplus bolt-actions into sporters are pretty much gone, though. Reasons are legion, including the fact that such a procedure no longer makes economic sense. Relatively few folks these days have access

to the machine tools it takes to do a good conversion job, and the market itself has precluded the economic advantage of such conversions.

The 7.65mm Argentine cartridge predates any rifles Argentina ever had chambered for it. Technically, it is the 7.65x53mm Mauser cartridge (or 7.65x53mm Belgian Mauser) introduced in the Model 1889 Belgian Mauser rifle. Over the years, a number of other countries adopted the round for military purposes including Bolivia, Colombia, Ecuador, Peru and Turkey. Military rifles to shoot it were made primarily in Germany as export rifles, but a "clone" factory was established in Argentina, and many of the Argentine Mausers were made locally.

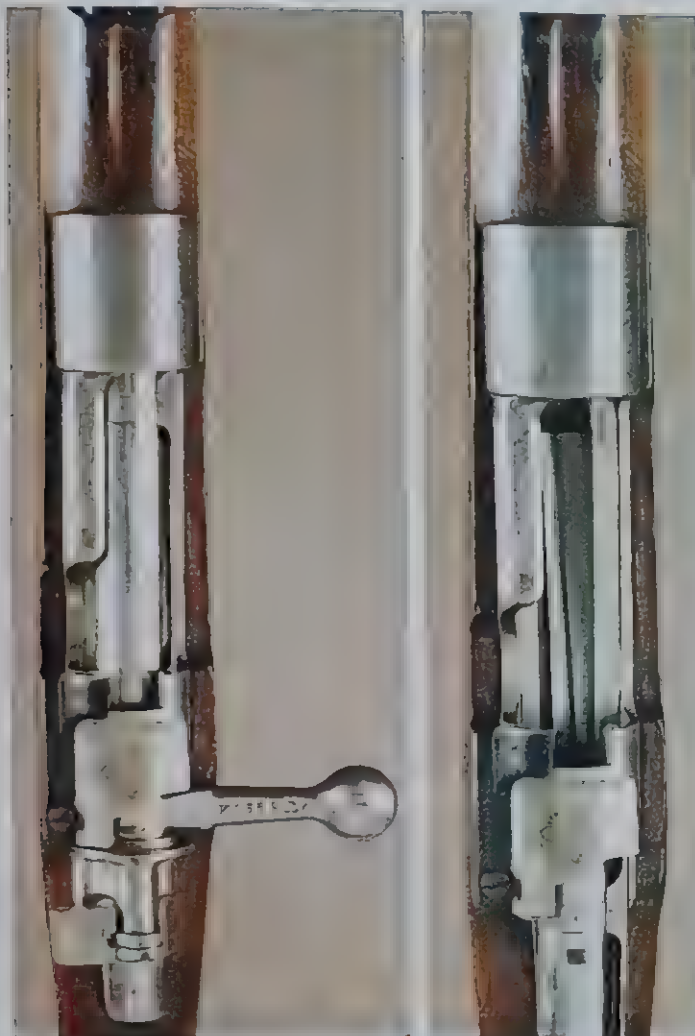
My rifle was made by Berlin's Deutsche Waffen und Munitionsfabriken (DWM), one of the better-known German Mauser manufacturers at the time. It has always fascinated me why the export rifles made for other countries were always so much better made than the rifles

Germany made for itself. But that's another story.

Model 1909s generally came in two configurations: the full-length rifle and the carbine. I have owned both and prefer the full-length rifle, which weighs a nominal 9.25 pounds. It has a five-round magazine capacity and sports a 29-inch barrel with .301 bore and .311 groove diameters. The four-groove rifling has a right-hand twist rate of one turn in 9.8 inches. Although the military bullets were .313 inch in diameter, the Argentine Mausers shoot .311 and .312 bullets just fine.

There were two primary military loadings for the cartridge. One sent a 211-grain bullet out of the barrel at a nominal 2,132 fps while the later loading shot a 185-grain bullet at 2,467 fps. This is just shy of the modern .308 Winchester cartridge in performance, and it's easy (and safe) to duplicate .308 performance in the Model 1909. (However, it's not a good idea to shoot the faster loads in the earlier '91 Argentines.) Norma factory loads for the 7.65x53mm include a 150-grain

Model 1909 Argentine Mauser



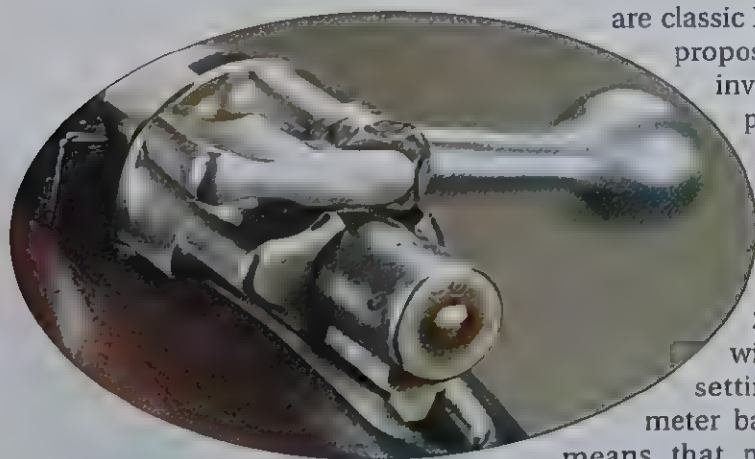
Open and shut: The Model 1909 Argentine feeds from a five-round box magazine. Countless straight bolts were bent down to produce "scope-friendly" sporters. Unlike other Mausers of the time, the bolt release continues over the top of the receiver bridge.



This close-up of the 1909's bolt face shows the classic large-claw Mauser extractor, which, to this day, is unsurpassed for reliability and sheer strength.



The left side of the receiver shows that the author's particular Model 1909 Argentine Mauser was made by DWM.



Like other similar Mausers, the 1909 features the classic three-position strike safety.

bullet at 2,920 fps and a 180-grain bullet at 2,590 fps.

Sights on the 1909 Argentine

are classic Mauser tangent propositions with an inverted-"V" front post and a "V"-notched rear sight that is calibrated to a "harassing fire" range of 2,000 meters, with a bottom setting for a 300-meter battle sight. This

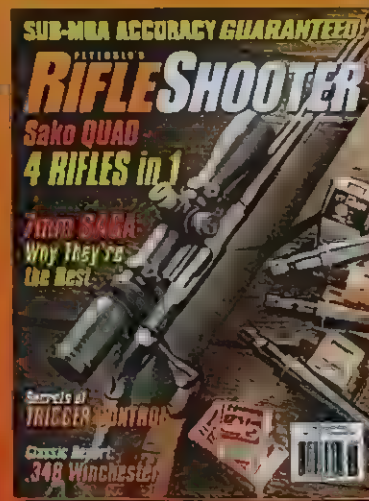
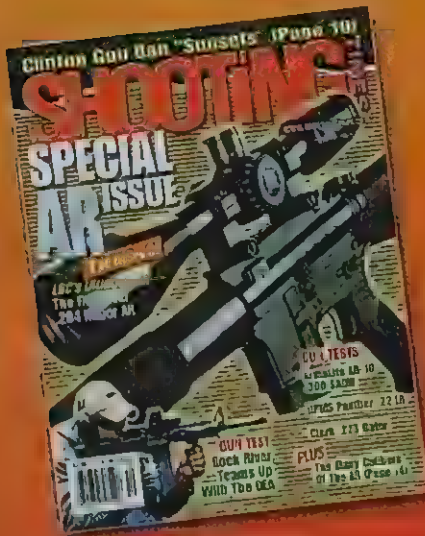
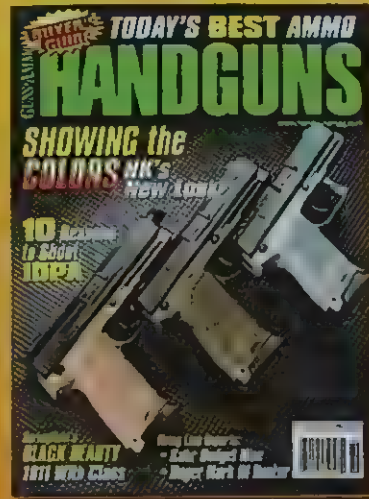
means that most unaltered rifles shoot roughly four inches high at 100 yards. With judicious handloading, however, you can create loads that shoot right to the point of aim at 100 yards—handy for general use.

Model 1909 Argentines have been available on the surplus market off and on for nearly a half-century. However, most now are odds and ends picked up here and there around the world. Most of the others are available on the regular used market, having been put up for individual sale.

I have owned literally hundreds of surplus Mausers from countries around the world. But somehow, none has quite the same place in my heart as my first Argentine Model 1909. It helped launch my lifelong commitment to the shooting sports. When I have this rifle in my hands, all is right with the world.

In many ways it was the best gun deal I ever made. ©

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Death From Afar: Sniping During





The Great War

A look at the men and equipment in sniping's coming-of-age during World War I

By Martin Pegler

When war broke out in France in August 1914, few people had any idea of the monumental struggle that lay ahead. The major powers—Britain, Germany, France and Russia—all possessed huge, well-equipped armies, with Britain and Germany being particularly well matched in terms of training and equipment.

While many Mark III Enfields were used as sniper rifles during the Great War, a good number, such as this Australian Lithgow (top), were never issued and were refurbished and used in World War II. Though scarce, British Pattern 14 "Enfields" topped with Pattern 1918 scopes (center) do occasionally still turn up on the collector market. America's primary sniper rifle of World War I was the 1903 Springfield fitted with the bulky Warner & Swasey scope (bottom).

Death From Afar: Sniping During the Great War



The sidemounts for the British Periscopic Prism scope setups had screw fittings and a locking spring catch. Early versions had problems with the screws working loose or shearing.



A British sniper team, circa summer 1914, with a Periscopic Prism scope-mounted Mk III Enfield. The observer is using a trench periscope to spot for targets.

While Germany had a larger army, the British regulars had had much experience in fighting colonial wars, and it was arguably one of the toughest professional armies in existence. In fact, it is doubtful that a raw territorial army of the type that was to take up the fight in 1915 could have survived the massive onslaught of the Germans in 1914.

If there was one area in which the British were lacking, it was in the art of sniping. In the crude trenches established by late 1914 along the Western Front, soldiers became used to the crack of bullets passing close by and the sudden shout for "stretcher bearers" as another man lay crumpled at the bottom of a trench with a bullet hole through his head. In fact, it took many months of fighting before it dawned on the officers and men of His Majesties' army that the extremely high level of casualties from what was generally referred to as "stray bullets" was due to deliberately aimed shots being made by skilled shooters. It took very little time for the popular press to latch onto this, and

they quickly began to refer to this dire new German menace as "sniping." The word was most probably brought to France by the British soldiers who had seen service in India, where it was used as early as the 18th century to refer to skilled bird shooters. In the fluid fighting of the early months of the war, German snipers concealed in the many woods and ruined buildings had rich pickings, as Pte. W. Walker of the 13th Battn. Northumberland Fusilier's later recalled. "*Ping*. This time [a bullet] found a billet in the thigh of a chap in No. 1 platoon. He gave a howl of pain and was carried away. Sure enough it was a sniper, and they weren't long in getting him. He had been concealed in the rafters of one of the higher houses...an officer and a man brought him down the road between them. He was a small, white-faced man; I heard later they had plugged him with lead."

It was a rare occurrence for a sniper to be captured, though, for all knew their likely fate was a bullet in the head or worse if caught by the furious men at whom they had been shooting hours or even minutes before. Like machine gunners, few captured snipers ever survived to reach prisoner-of-war camps. How had Germany been able to so quickly field so many *Scharfschützen*? In 1914 Germany possessed two things that the Allies did not: a plentiful supply of optically equipped rifles and men capable of using them. There was no question that from the very start of the war Germany had the ability to field a large number of men who had the skills to be used as snipers, for hunting was an ancient tradition in the German states, and the *Jäger* regiments, (literally, "hunters") had long been incorporated into the line infantry regiments where their skills were used in much the same way as those of the British



A late-war German Hensoldt with its original case and instruction leaflet. The lens brush and tool for adjusting the windage screw are included.

rifle regiments—scouting, skirmishing and accurate shooting. In addition to the men, the army had requisitioned thousands of telescopically equipped hunting rifles, which were "lent" by their owners for the duration of the war. Mostly of Mauser pattern, they were sporting rifles of 8mm caliber, often of very fine quality with set triggers, checkered stocks and inlaid barrels. One slight problem the army faced in issuing these was that many were chambered for the old 8mm roundnose bullet, not the new 8mm "S-Patrone" spitzer pointed-bullet ammunition. This ammunition worked at far higher chamber pressures than the old cartridges and could blow the breech on an older rifle. Many sporting guns were issued with a distinctive engraved brass plate on the side, with the image of a round-nose cartridge and the warning: "*NÜR FÜR PATRONE-88, KEINE S-MUNITION VERWENDEN*" ("Only for Patrone-88 cartridges, S-ammunition not

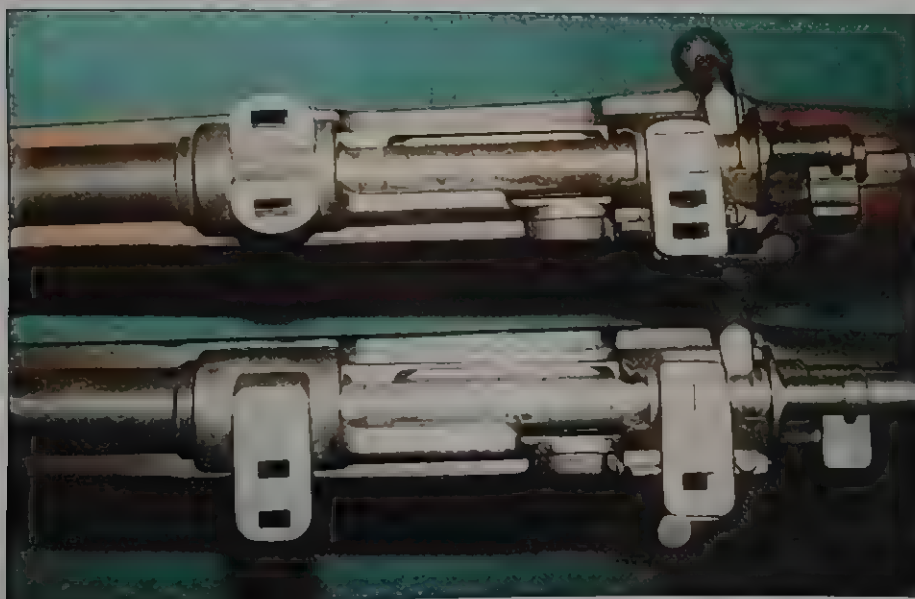


A German officer with a sporting Mauser rifle and commercial/military pattern scope. The rifle is a high-quality prewar hunting arm with double set triggers and custom stock. This is typical of the type of rifle pressed into service by the Germans in 1914.

Death From Afar: Sniping During the Great War



The leather carrying pouch with a British Barnett (or Ulster) target sight. This arrangement, though crude, provided basic magnification of about 2X and was acceptably effective in good weather.



The two most common types of Gew98 claw mounts used with Gallielean sight are offset and partially offset. This type of fitting enabled the iron sight to be used, even when the scope was fitted. Photo courtesy Dr. Geoff Sturgess collection

to be used"). However useful these rifles were, they were no more than a stopgap measure, for most were too fragile to withstand constant field use. With typical thoroughness Germany had already addressed the problem by diverting stocks of Gew98 service rifles to be converted for sniping use. This was initially done by

selecting rifles that proved particularly accurate in test firing, although as the war progressed, batches of rifles were later allocated for conversion, with those that proved less accurate being returned for infantry issue.

The major rifle manufacturers, such as Mauser-Werke and DWM, had specialist armorers whose job

was to assemble, collimate (the scope being bore-sighted to the rifle) and test-fire each rifle. The scopes used were many and varied, from prewar manufacturers such as Gerard, Oigee, Zeiss, Bock, Busch, Hensoldt, Voigtlander and a host of others. They were generally of 3X or 4X, with top-mounted range drums and remote adjustment for windage by means of an eccentric screw on the rear base. The bases themselves generally conformed to three basic types—overbore, partially offset and fully offset—the first two types being by far the most common. The paired base sets and scope were supplied fully machined, but each pair had to be meticulously mated to a designated rifle, and this involved considerable time in hand-fitting. In effect, this meant that even with identical bases, no scope would fit straight from one rifle on to another, making interchangeability virtually impossible. Once collimated, the scope body was numbered to its rifle, the two never being separated. Snipers were personally issued with their rifles in training and were expected to look after them for the duration, being given a new one only in the event of mechanical failure, loss or damage.

Although training was initially perfunctory, with neophyte snipers being assigned to an experienced man if he was lucky, as the war progressed formal training camps sprang up behind the lines as well as at training camps in Germany. Men with good shooting skills, volunteers or those who had already proved to be cool under fire would be selected and given an instructional course lasting between 10 days and three weeks, depending on conditions. Once assigned to their units, they would be given free reign over their regimental front and would be expected to get to



A view of an Mk III SMLE showing the degree to which the scope was offset. This caused problems when firing from loopholes in the trenches and was the cause of much complaint from snipers.

know their sectors intimately. It is difficult to assess just how effective these *Scharfschützen* were as casualty figures were not broken down into types of wounds, but it is sobering to reflect that the daily casualty rate along the whole British front lines up to 1916 was on average 14,500 men. Of course, much of this was due to sickness, shellfire, trench mortars and grenades, but if even 10 percent were due to sniping, that was 1,450 men lost through nothing more than a few seconds of carelessness each day. It was generally believed that an experienced sniper required only three seconds in which to register a hit.

If Germany was certainly winning the sniping war by early 1915, what of the Allied response? Britain was certainly handicapped by having no hard core of experienced shooters to call upon, with the exception of a very few big-game or deer hunters. There were, however, many thousands of skilled target shooters who had shot for regiment or county at Bisley, and initially, these were the men selected for sniper training, although it wasn't

always as logical as that. Major Hesketh-Pritchard, in his seminal work on Great War sniping, recalled seeing a puzzled private examining a brand-new scoped rifle:

"Have you ever shot with this rifle?" I asked.

"No, sir," he replied.

"Do you understand it?"

"No, sir."

"How did you get it?"

"It was issued to me as trench stores, sir."

"Who by?"

"The Quartermaster, sir."

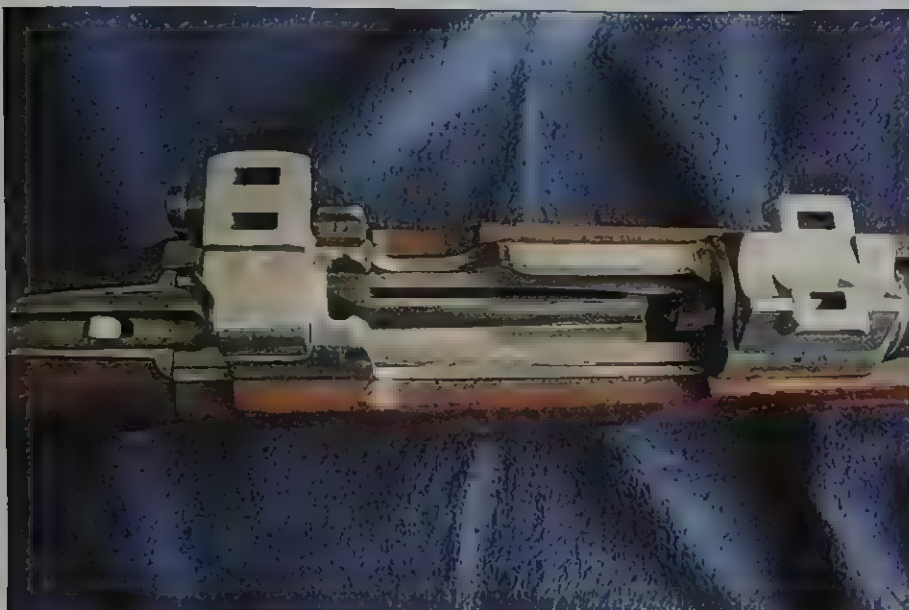
Experience eventually showed that target shooters were not always the best to select as snipers because their temperament was often unsuitable and they lacked the hunter's instinct. The British had nothing in the way of special equipment except for a number of simple Galilean-type optical sights, which were marginally better than nothing. In terms of response, most regiments provided their best shots in each platoon with the freedom to take on the Germans at their own game, using any methods that they could. Many early British

snipers were actually quite successful, some—like L/Cpl A. Dow of the 1/6th Seaforth Highlanders—having 50 confirmed kills before being returned to England with wounds. Alas, many proved no match for the skilled Germans, and their careers were unspectacularly brief. However, under the tutelage of a few senior officers such as Majors V. Hesketh-Pritchard, E. Penberthy and F.M. Crum (all of whom had unmercifully badgered their respective general staffs to be permitted to set up sniping schools), in late 1915 the First Army School of Scouting and Sniping was formed at Acq in France, soon to be followed by two more corps schools, as well as a host of army training depots based in England. Training covered much the same regimen as the Germans: field craft, observation, range and wind estimation, camouflage, map reading, observation, care and use of rifles and scopes, and, of course, accurate shooting. The courses varied in length from a week at a school behind the front to three weeks in the U.K. Two advantages the

Death From Afar: Sniping During the Great War



The primary American sniper rifle of World War I was the Model 1903 Springfield fitted with the M1913 Warner & Swasey scope. Even at the time of issue, the U.S. Ordnance Board felt it was inadequate for the sniping role, and as early as 1914 plans were underway to replace it.



A partially offset Oigee scope and claw mounts on a Gew98. This setup is typical of the type of mounting system used by German snipers during World War I.



Allies had that were not enjoyed by any other nation were the use of the Scottish Lovat Scouts, skilled highland ghillies whose ability to approach and observe their quarry unseen were unequalled, and the powerful four-drawer 20X observation telescope that they used. These were issued to all scouting and sniping sections, along with a leather carry case, and were known as "Telescope, Signalers Mk 1." Far more powerful than the usual binoculars, it was said that in clear weather a skilled Lovat with a scout scope could see enemy-troop movement at 10 miles' distance.

Having the men was one thing, but all were handicapped by the lack of a suitable optically equipped rifle. Indeed the War Office had tried to redress this by purchasing some 56 assorted "big game" rifles, many with scopes, in 1915 to use against German sniper positions, but this was a drop in the ocean compared to the wholesale needs of the army. In fact, most of the large rifle-makers such as Purdey, Holland and Holland, Alex Martin and Rigby had been making their own mounts and bases for an assortment of scopes since late 1914. There was no form of standardization, and each produced what it believed to be the best solution to the problem of mounting a scope on the Lee-Enfield, a rifle that was



The .303 Pattern 14 "Enfield" Rifle, which was manufactured in the United States, saw little general front-line use with the British, but a number were used in the sniping role late in the war.

never designed to have a scope fitted to it. In early 1915 a contract, S.A.390, was put out to tender by the War Office, requesting manufacturers to meet the specifications for a simple, quickly detachable mount and bracket for use with a telescopic sight. The winner was the London-based Periscopic Prism Company (PP Co) whose design for a screwed-on dovetail base with q/d mount and scope was deemed satisfactory, and production was sanctioned on May 4, 1915. The bases, although complex to machine, could be fitted to

the left side of the Enfield's receiver with no modifications required, and a 3X PP Co Scope was invariably, but not exclusively, fitted (sometimes an Aldis was substituted). The PP arrangement was not a bad compromise, with some 4,830 PP-mounted rifles and scopes being issued.

In practice these first scoped rifles reaching the trenches were found to have shortcomings. In particular, the offset made viewing through a loophole a very difficult affair, and shooting often fractured the recoil stop on the

front of the base, causing the scope to fly off. Scopes weren't waterproof and suffered badly from moisture, but in fairness this was a problem the Germans also had, and it took decades for a solution to be found. In terms of performance, the Mauser was believed to be marginally better in terms of long-range shooting ability, partly due to its longer barrel and superior scope-mounting system. About 600 yards was believed to be the maximum range to ensure a body hit with the Mauser and 500 yards with the Enfield,

Collecting Great War Sniping Rifles

In the past decade the demand for these rifles has rocketed, and demand invariably outstrips supply. This is particularly true in the case of British sniper rifles for the simple reason that the army ordered all stocks to be dismantled and disposed of in 1925. The optical sights were sold off into the commercial gun trade, and many still turn up with commercial mounts fitted to them. The rifles were mostly scrapped or returned to stores and sold off to foreign countries as surplus. As a result, only a very few rifles and scopes survived intact in regimental museums or training depots. This means that the likelihood of being offered an original SMLE with a PP or Aldis scope on it is roughly equivalent to finding a gold nugget in your breakfast cereal. Nearly all of those offered for sale today are rebuilt using original scopes, donor rifles and reproduction mounts and bases. An exception is the Pattern 1914 Mk 1*(T) rifle with its Pattern 1918 scope as these were too late to be issued in quantity in WWI, and large numbers were stored to be reissued in WWII. Australian Lithgow-made SMLEs with P18 sights also exist for the same reason, and quantities have recently been sold off as surplus into the collector's market.

The situation is slightly better where Mausers are con-

cerned, for many hundreds were taken home by the retreating German soldiers and stowed away in cupboards or attics. Some were soon put to use in the Spartacist uprisings following the war, and many others were reissued in the early years of World War II. Therefore, the supply of original rifles, usually with mismatched scopes, is better than it is for Enfields, and plenty of scopes are still available. That said, some German makers are now producing superb copies of mounts and bases, albeit in very limited quantities. If a modern rifle is fitted with reproduction mounts and an original scope and the work is done by a skilled gunsmith, it is almost impossible to determine if it is genuine. American Springfield M-1903s, with mounts for the Warner & Swasey scopes, do turn up from time to time and as yet do not appear to have been faked—unlike the rare M1915 Canadian Ross. There are very few genuine sniping Ross/Warner combinations known, and the Warner scope for the Ross has different range dial graduations to that of the U.S. example and is serial numbered, so any "original" Ross sniping rifles that turn up should be regarded with great skepticism. But that is true of any rifle of this period being offered without a cast-iron provenance. Buyer beware!

Death From Afar: Sniping During the Great War



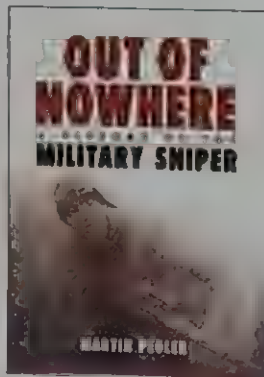
A group photograph of a section of German snipers. They hold issue Gew98 sniping rifles, and their scope cases can be seen hanging around their shoulders. They are typical of the fearsomely effective trench snipers that inflicted havoc among the British front-line troops in 1914/1915. Thomas Meyer photograph

although the Enfield's bolt was thought to be faster and smoother to operate. Both suffered from problems caused by the wet conditions warping the all-enclosing woodwork, putting pressure on the barrels and altering their point of aim. A deviation of .015 inch at the muzzle caused by such pressure would alter the point of impact nine inches at 500 yards—sufficient to entirely miss a target—and the science of free-floating barrels was yet to emerge. In fact, it was the Canadian snipers who took saws to their Ross and Enfield sniping rifles, cutting away the fore-end woodwork to partially free-float the barrels, a practice that would have resulted in court martial in the British army but one that anticipated the use of such barrels by snipers in the late 20th century.

By 1917 Germany had realized

that its assumption of victory over the Allies was not necessarily going to be fulfilled. With the arrival of the Australians and New Zealanders came some very experienced snipers, many of whom had fought in Gallipoli, and Germany no longer held the upper hand in the ruthless but largely invisible sniping war. Increased production of sniping rifles meant that, as Major Crum commented, by late 1916 "it was almost raining rifles," whereas Germany was finding it increasingly difficult to replace the weapons and scopes lost or damaged in combat. There were still plenty of *Scharfschützen*, but their will to fight was being eroded by problems at home and shortages of

almost everything from food to boots. As the war became more open, the German snipers took to fighting rearguard actions, which they did to incredible effect, and in the last year of the war the Allies increasingly found themselves fighting a new type of urban sniping war, from street to street and house to house, for which their training had left them very ill-equipped. It was nevertheless to prove a valuable lesson for the war in Europe that would erupt barely 20 years later. ©



Editor's Note: Martin Pegler is senior curator of firearms at the Royal Armouries, Leeds, UK, and author of a recent book on the history of military sniping, Out of Nowhere.



The Colt Model M was one of the most popular auto pistols ever designed. During World War II it was drafted into U.S. service and issued to support troops and general officers. Pictured is a Parkerized GI-issue 1903, general officer's holster rig, jacket and overseas cap (author's collection).

Colt Model M Pocket Auto

In either .32 or .380 it was one of the most popular carry pistols ever made.

By Garry James

Without question, from numbers made and sold, longevity and the widespread distribution of the Colt Model M, it ranks as one of the most successful autos of its type ever designed. The gun's reliability, sleek lines and seven-round capacity made it a favorite of generals, gangsters, private dicks, police forces (foreign and domestic) and ordinary citizens.

Actually, the Model M series comprises two models (with some subvariations): the Model 1903 in .32

ACP and the Model 1908 in .380 ACP. But I'm getting ahead of myself.

It should come as no surprise that such a handy little piece of machinery originated in the mind of John M. Browning. As evidenced by the pistol's "1903" designation, it first appeared in that year, manufactured by Colt, who, according to an agreement with Browning, would market the guns in the U.S. Fabrique Nationale in Belgium was authorized to make and sell Browning's wares in Europe.

Colt Model M Pocket Auto



The evaluation 1903 was reliable and easy to shoot with all ammunition tried. Recoil was sharper than expected but not prohibitive.



The magazine release is a heel-mounted button. The M1903 (.32 ACP) magazine holds eight rounds while the Model 1908 (.380) holds seven.

The 1903 was chambered for .32 ACP. Its relatively small size (6 $\frac{3}{4}$ x4x1.1 inches), light weight (23 ounces) and sleek, hammerless silhouette (there was also a clunkier 1903 hammer pocket-pistol produced at the same time in .38 ACP) made it a natural for carry in a shoulder holster or coat or trouser pocket. It featured both a grip and manual safety—the latter also doubling as a slide hold-open. Sights were pretty rudimentary, consisting of a small blade front and narrow U-notch rear, which was later changed to a square notch. Finish was originally blue, though nickel, silver and even gold plating were offered in fairly short order. The guns could be had with engraving on special order, and the standard checkered hard rubber grips could be replaced with walnut, pearl and ivory of varying fanciness should the purchaser so specify. Other extras includ-

ed such things as lanyard loops and belt clips.

Originally, the Model M had a 4-inch barrel and separate barrel bushing, but after about 72,000 units had been produced, it was altered to a 3 $\frac{3}{4}$ -inch barrel, and bushings disappeared around serial number 105,000. A few guns in the 104,000 range were also apparently fitted with magazine safeties. In 1908 the .380 Model 1908 appeared with little to differentiate it from its predecessor, except chambering.

In Service

With the onset of World War II, the Model M was mobilized. Several thousand were purchased by Great Britain, and the United States drafted large quantities, each marked "U.S. Property" on its frame. Both .32s and .380s saw service. Finishes were either blue or Parkerized, and grips were normally checkered walnut inset with silver Colt medallions.

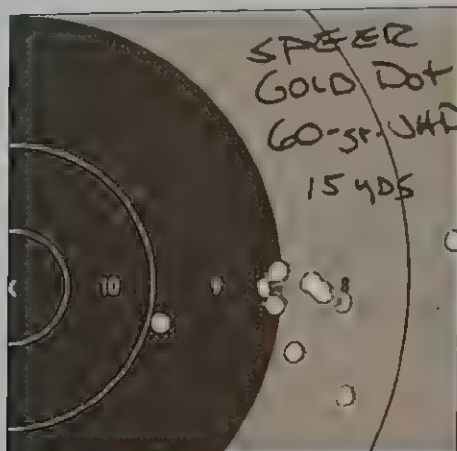
Model Ms were issued to support troops and general officers. George S. Patton included both variations of the Model M in his personal arsenal, the grips emblazoned with distinctive general's stars. Generals were also given beautiful holster sets with their Model Ms. They were made by Hickock, were of brown leather

and featured an adjustable belt, holster with snap loop and dual magazine pouch. The outfit's gold-plated two-piece buckle featured the U.S. National Emblem in high relief. Actually, general officers continued to be given Colt Pockets for a number of years following WWII. The main difference between theirs and earlier ones was that black leather was substituted for brown, in keeping with the Army's postwar changeover.

By the time the Model M was phased out of production in 1945, some 747,585 1903s and 138,009 1908s had been manufactured, making it the most widely produced auto pistol in Colt's history.

Fieldstripping

Stripping a Model M (later non-barrel-bushing version) is simple. First, remove the magazine, and inspect



The author's Model M proved to be quite accurate from a rest, as attested by this 15-yard rested group. The most accurate ammo was Speer's 60-grain JHP.

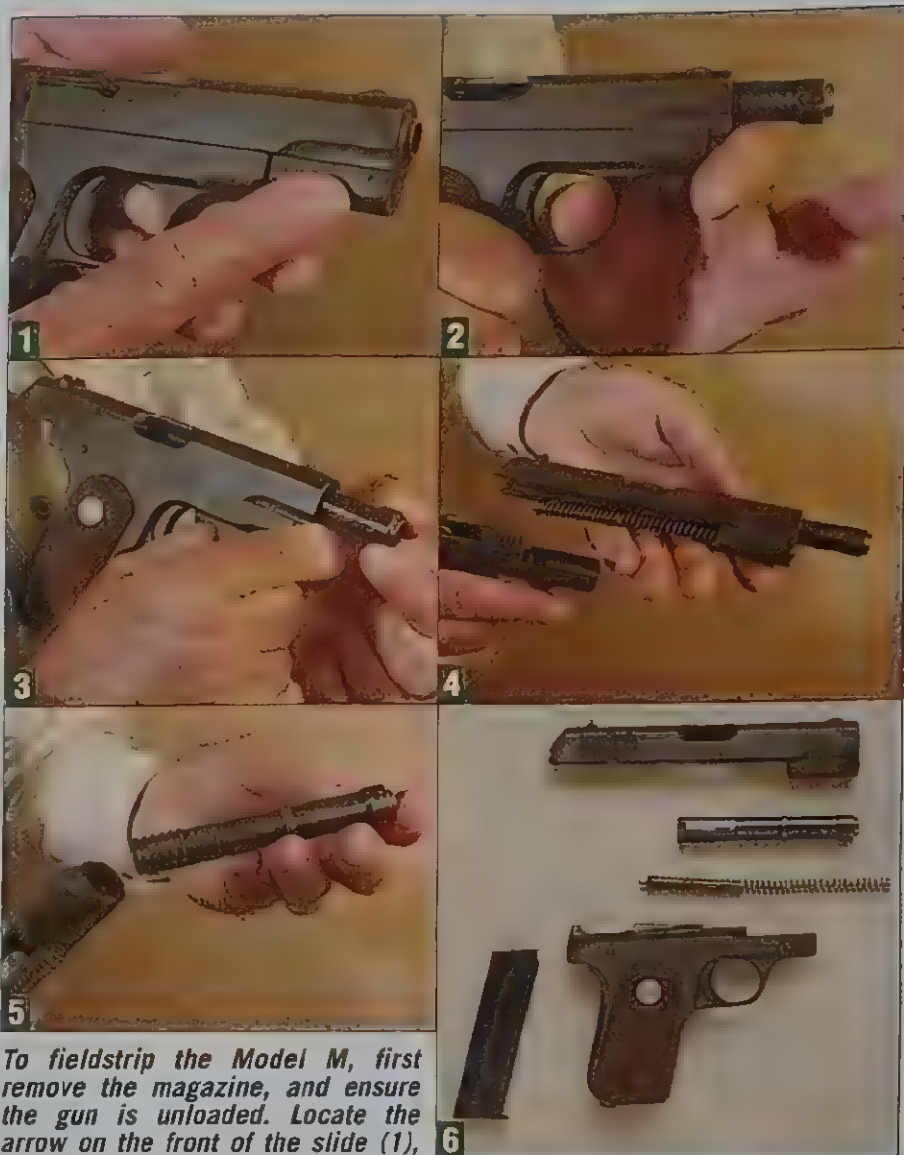
the chamber to ensure the gun is unloaded. Then draw the slide rearward against the recoil-spring pressure until the arrowed line inscribed on the right side of the slide just below the muzzle is aligned with the forward edge of the frame. Rotate the barrel 180 degrees counterclockwise, and run the slide forward of the frame. The barrel can then be removed rearward, out of the slide, along with the recoil spring. Reassemble in the reverse order.

As noted, the Model M has a grip safety and small safety catch on the rear left side of the frame. The magazine release is a simple heel-mounted button that must be pushed back to drop the mag. While I have heard some writers complain that the safety and mag release were just too fiddly for smooth operation, I have never found them to be so. To be sure, I don't have particularly large hands, but still, I would think that with a little practice, even the most ham-fisted of us could manage. Al Capone was not the most dainty of humans, and he seemed to have no trouble with his Colt Pocket.

On Target

I have two 1903s, one a British-issue piece replete with broad-arrow proofmarks, black paint finish and all the signs of pretty hard use. My other Pocket is an almost 98 percent-Parkerized U.S.-issue piece, and it was this latter gun I chose to feature here, figuring it would provide the best example of how the model would perform.

Selected ammo included 90-grain Blazer FMJs and Speer 60-grain JHPs. The gun was fired from a rest at



To fieldstrip the Model M, first remove the magazine, and ensure the gun is unloaded. Locate the arrow on the front of the slide (1), and move the slide backward to where the line behind the arrow matches up with the front of the slide (2). Turn the barrel 180 degrees (3), and move the slide forward off the frame (4). Remove barrel, recoil spring and guide (5). The gun is now taken down into its basic components (6). Reassemble in reverse order.

15 yards and offhand at seven yards. Functioning was perfect with both loads. The gun barked a tad, and recoil was a bit stouter than I have come to expect with a .32, but by no means off-putting. The best groups from a rest came in at just under two inches while rapid-fire, seven yarders spread out to about three inches. To be sure, the small square notch rear sight was not wonderful for rapid target acquisition, but one must remember that this is essentially a close-range defense gun and more likely than not would have been used for quick snap-shots.

By far the .32 was the most popular of the Model Ms, and it's easy to see why. If you need a .380, you might as well move up to a .38 or 9mm. The .32 is, to me, the classic pocket-gun caliber and the 1903 Colt the quintessential pocket gun.

©

CERTIFICATE

19 December 1945
(Date)

1. I certify that I have personally examined the items of captured enemy equipment in the possession of Major Allan J. Hatter, 3215400 and that the bearer is officially authorized by the Theater Commander, under the provisions of Sec VI, Cir 155, WD, 28 May 1945, to retain as his personal property the articles listed in Par 3, below.
2. I further certify that if such items are to be mailed to the US, they do not include any items prohibited by Sec VI, Cir 155, WD, 28 May 1945.
3. The items referred to are:
 1. Pistol, Beretta-Cal. 9mm Corto, "D 1931, or variation, Serial No. 793150
 1. Baggage, German, with notebook



BERETTA

ALLAN J. HATTER
Sq "A", 1st Lt

6-46 3-100-000 70-150



The Model 34 Beretta was a popular war trophy with returning GIs. While it was official Italian issue, some were also used by the Wehrmacht.

World War II was one of the last conflicts where pocket pistols were considered serious military sidearms. To be fair, Germany's primary handguns were the 9mm P.38 and Luger, but there were also scads of .32s and .380s (and even some .25s) being carried. Walthers, Mausers, CZs and MABs all could be seen dangling from officers' waistbelts. Even the Allies were not immune to this trend, and the U.S., for instance, issued Colt Pocket autos to generals and specialized troops, and even fielded some Colt Vest Pocket .25s. Italy carried the fashion one step further and adopted a .380 as its primary handgun. It was one of the best-designed pistols of the war, but it was still a .380, or as the Italians called it, "9mm Corto."

MODEL 1934

What this .380 Italian service pistol lacked in power, it more than made up for in reliability.

By Garry James

The Model 1934 Beretta (there was also a Model 35 in 7.65mm) was a member of a long line of top-notch autos (models 1915, 1919,

1923 and 1931). Like its predecessors, it was a small blowback, well thought out and ergonomically pleasing. Primary orders came

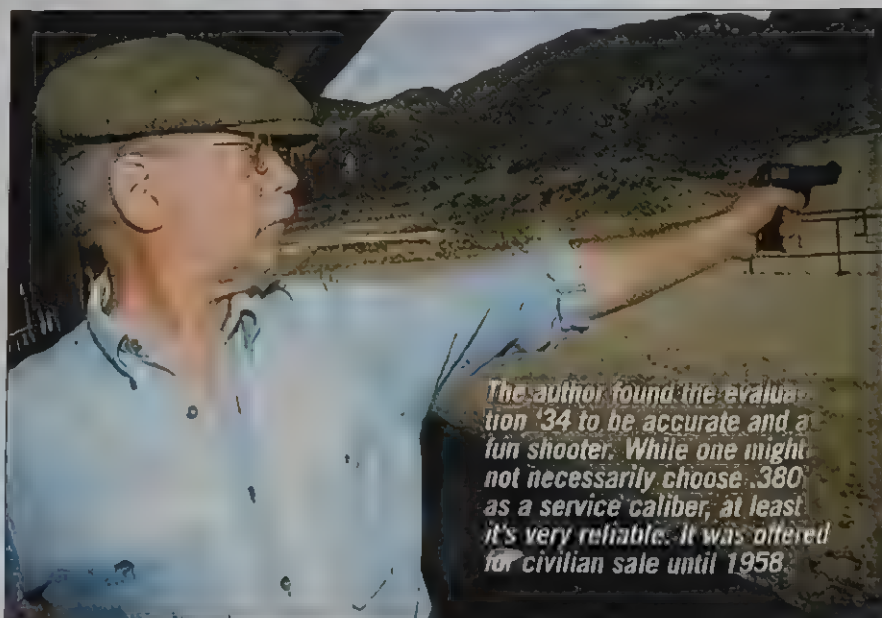
from the Italian army, followed by air force purchases. The gun became so popular it was eventually declared standard issue, though a number of older Italian handguns, such as the Bodeo revolvers and Model 1910 Glisenti auto, were also seen in the hands of Mussolini's fascist forces.

When Italy left the war, a number of Model 34s and 35s were also carried by German officers. In fact, the gun I am using for this evaluation came in a German Waffenamt-stamped holster. The American capture papers that accompanied it also listed a "German Officer's Dagger," which, sadly, was not still with the pistol and holster. But I'm getting ahead of myself.

The Model 34 was simply a great gun. Exhibiting typical Beretta quality (even in late war versions), it was easy to operate, not difficult to take down and reliable in the extreme. Grips were black plastic emblazoned with the Pietro Beretta (PB) monogram. Finish was a combination of a blued frame and plum-colored slide. The safety, which also served as a slide hold-open, was located on the left side of the frame, where it could easily be manipulated with the thumb of the right hand.

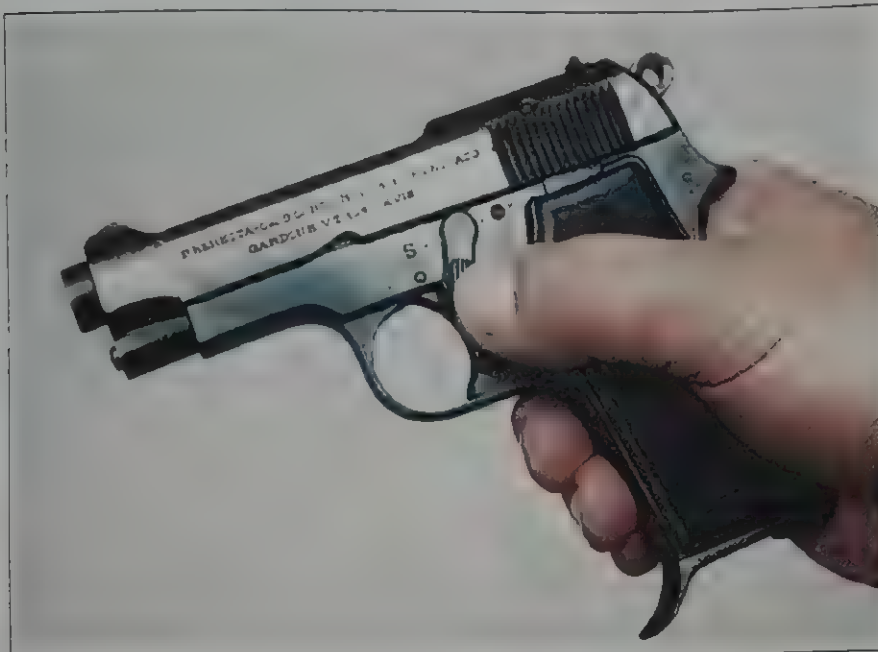
I've heard some people complain that rotating the lever 180 degrees to put the gun on and off Safe is a bit cumbersome, but I must admit I have never found it so.

Like so many European pistols of the period, the magazine had a



The author's evaluation Model 1934 was army issue, as denoted by a "RE" (Regia Esercito) stamp. It also has the date of manufacture on the slide in Gregorian and fascist numbers.

Beretta Model 1934



The Model 1934's safety is a small lever that must be rotated 180 degrees forward before the pistol can be fired.

heel release. When the final round was expended, the slide remained open, and it closed again when the magazine was removed.

The gun featured an external hammer. Sights involved a simple blade milled out of the top of the forward portion of the slide and a notch rear that could be drift-adjusted for windage. Capacity was seven rounds in the maga-

zine, plus one in the chamber, so while puissance was somewhat lacking in the .380 round, at least overall firepower was not.

Markings on the gun are interesting and just a little bit different. The left side of the slide exhibits the Beretta address, model and date of manufacture—in the Gregorian calendar in Arabic numerals and the fascist calendar,

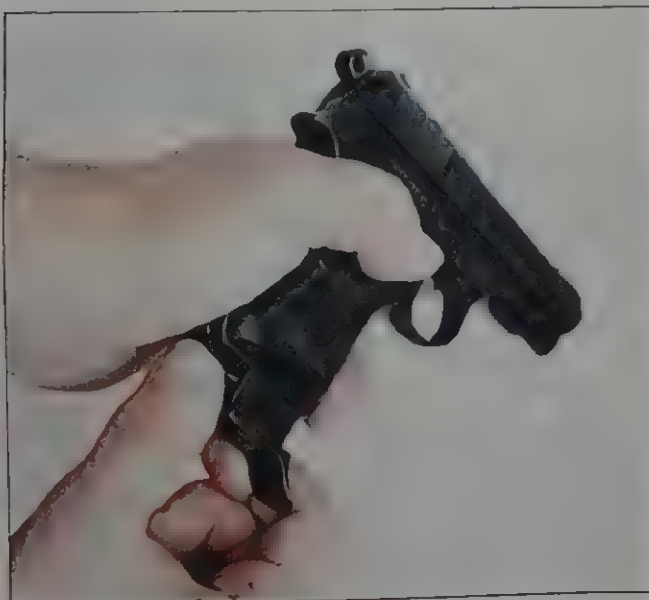
which started in 1922, in Roman numerals. Thus my test piece is dated both "1940" and "XVIII." Military pistols are also stamped either "RE" for Regia Esercito (Royal Army), "RA" for Regia Aeronautica (Royal Air Force) or "RM" for Regia Marina (Royal Navy.)

Barrel length on the 1934 is 3 $\frac{3}{4}$ inches, overall length is six inches, and it weighs some 24 ounces.

The M34 and M35 proved to be very popular with returning GIs, and even though thousands were brought back to the States as war trophies, Beretta recognized that there was still a market for this popular little pistol and continued making it for civilians until 1958.

Stripping the Beretta 34/35 is relatively simple. First, remove the magazine, and ensure the gun is unloaded. Now lock back the slide with the safety lever, and tap on the muzzle to free the barrel from the frame. Remove the slide forward off the frame, and pull out the recoil spring and spring guide. Reassemble in reverse order.

My evaluation 34 was in excellent condition, exhibiting little



Like many other European autos of the period (as well as some made in America), the Model 1934 has a heel-mounted safety catch. This is not as easy to manipulate as a frame button, but it is very positive.



The magazine holds seven rounds of 9mm Corto (.380 ACP) ammo. It has open sides, so one can easily see how many cartridges have been loaded. However, some observers feel this feature lets in dirt and debris.

use and only marginal blue wear. The bore was perfect and the trigger a crisp 5¼ pounds. After a little checking, wiping and oiling, it was ready to take to the range. It might be noted that in all probability, this was the first time the gun had been fired since the war.

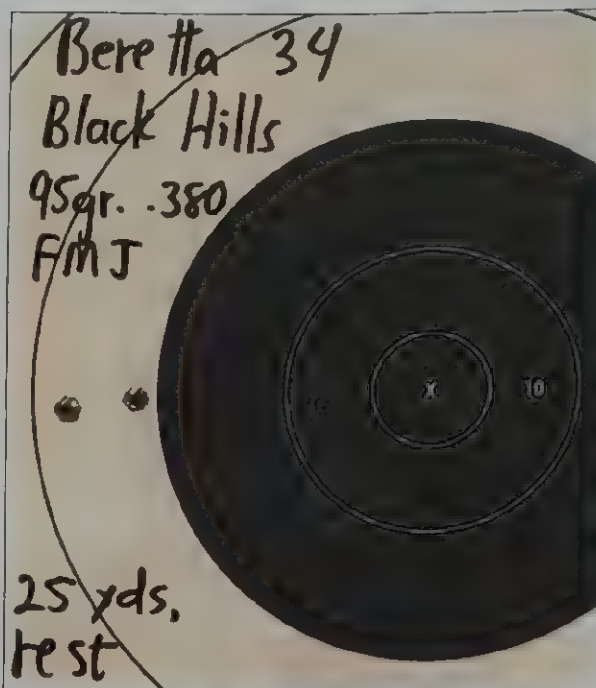
Ammo chosen was Black Hills 95-grain FMJ as it pretty closely approximates the Italian service load. The magazine was charged with seven rounds, a cartridge chambered and the trigger pulled. Nothing. Another round was chambered. Nothing again. I checked the primers, and they had been barely dimpled. The mag was removed, the slide pulled back and a punch used to push on the rear of the firing pin. It was, to say the least, a tad on the stiff side.

When pushed all the way forward, the pin protruded far enough to discharge a round, so it was determined that in all probability, some fugitive dried oil or grease was inhibiting its proper

forward travel. After putting a few drops of light oil in the rear of the pin and working it back and forth a few times, the gun was reloaded and tried again. Success!

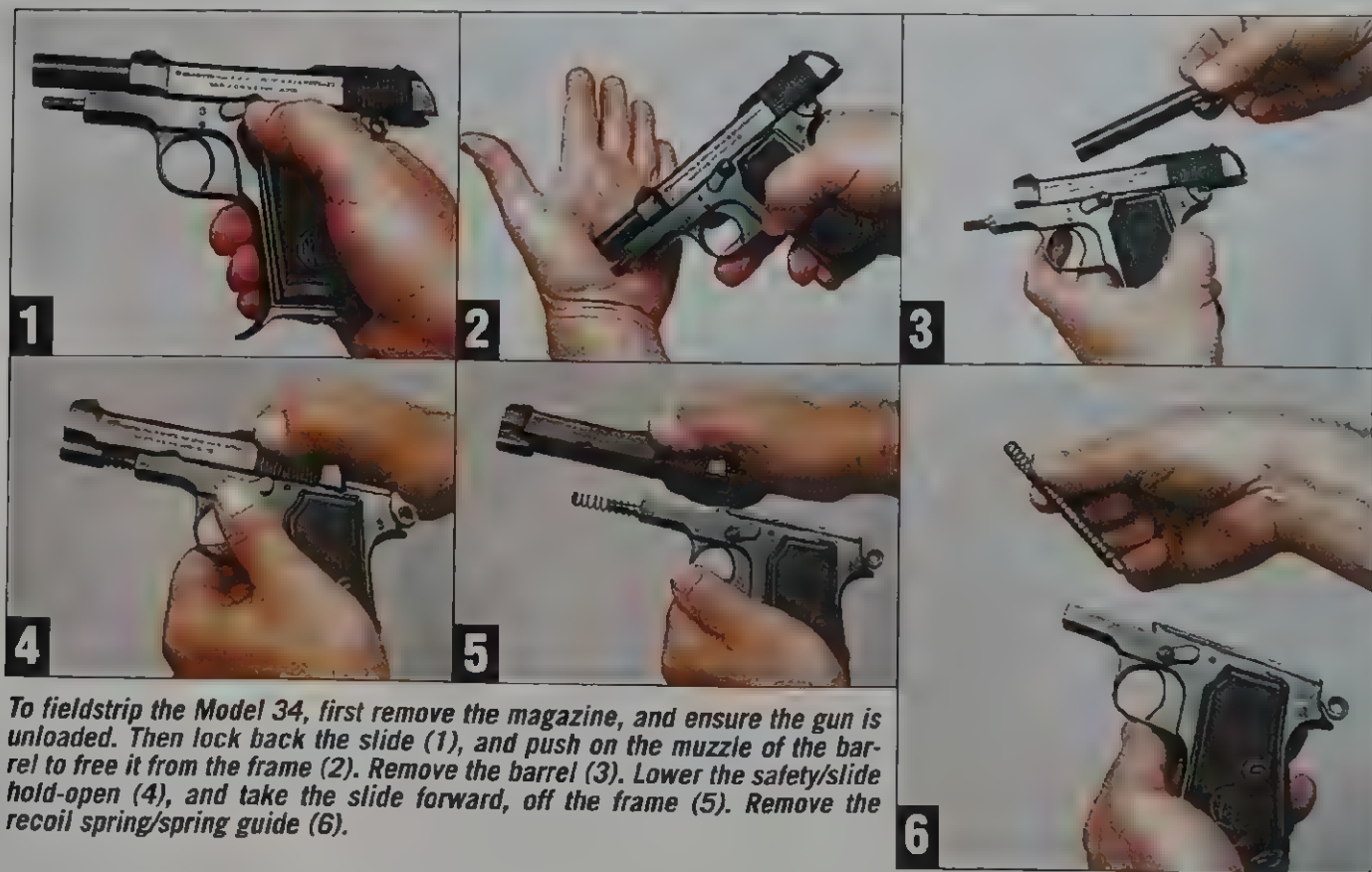
I ran through a couple of magazines full of ammo just to make sure all was in good order and then tried for accuracy. From a rest at 25 yards, it kept most of its rounds in sub-three-inch groups about four inches above point of aim. Not too bad for a pocket piece.

Recoil was not unpleasant, and it proved to be a lot of fun to shoot. Targets of opportunity at varying closer ranges were handily picked off, exhibiting more than adequate combat accuracy.



From a rest, using Black Hills 95-grain FMJ ammo, 25-yard groups ran in the three-inch range.

While I admit the Beretta 34 would not be my first choice for a service pistol, I'll also admit it certainly has a presence and considerable amount of jaunty élan—just like the Italians who first used it. ©



To fieldstrip the Model 34, first remove the magazine, and ensure the gun is unloaded. Then lock back the slide (1), and push on the muzzle of the barrel to free it from the frame (2). Remove the barrel (3). Lower the safety/slide hold-open (4), and take the slide forward, off the frame (5). Remove the recoil spring/spring guide (6).

Model 1903 Springfield

The Mauser-inspired .30 bolt action was superbly built and well designed. Though a military rifle, it did some of its best work at the competition target range.

By Charles W. Karwan

The M1903 Springfield is one of those classic bits of Americana whose reputation and position in history is actually far greater than it probably deserves. While that may sound like blasphemy, it is easily proven.





Model 1903 Springfield



The 1903 Springfield (top) was one of the finest and most beautifully built military bolt actions ever made. During World War II, a simplified version, the Model 1903A3 (bottom), was introduced. It featured many stampings, as well as an improved rear sight.

The .30-06 M1903 Springfield is commonly credited as being the primary rifle used by U.S. forces in WWI when in fact it was not. It is true that the first few U.S. divisions deployed had the M1903, as did the Marines. However, of the approximate 2 million U.S. soldiers sent to Europe in 43 U.S. divisions, only 252,304 were originally armed with the M1903. Fully three-quarters or more of the U.S. troops deployed in the war with rifles carried the .30-06 M1917 "Enfield." Indeed, the latter rifle was officially declared the primary rifle of the U.S. forces, and the M1903 was given the secondary role for issue to non-frontline units. There is no question that the venerable M1903 saw significant action in WWI, it just was not nearly as much as most people think.

The same holds true, to a large extent, for WWII. The M1903 saw action at the outbreak of the war, particularly in the Philippines. It was also the primary rifle of the Marines at Guadalcanal. Incredibly, the Marine leadership turned down M1 Garand rifles in favor of their old M1903 rifles for the island invasion. Once the Army forces landed carrying M1 rifles, few Marines wanted to keep their M1903 rifles, which

were quickly phased out in favor of M1 Garands as the Marine campaigns swept westerly toward Japan.

In Europe in WWII, the M1903 saw even less action in U.S. hands. It was issued almost solely to non-infantry units with the exception that some were retained for launching rifle grenades until a suitable rifle-grenade launcher was developed for the M1 Garand. Reports from that period show that few, if any soldiers wanted to carry the M1903 for grenade launching if it meant giving up their M1 rifles. The only Allied force to use the M1903 as a primary battle rifle in WWII Europe was the Free French.

If the M1903 Springfield played a secondary role in WWI and a relatively minor role in WWII, how is it that the rifle is held in such high regard and veneration? Part of the reason is that the M1903 was the first home for one of the world's greatest rifle cartridges, the .30-06. Another is its reputation for accuracy that was garnered between the wars primarily by the performance of its National Match version at the U.S. National Matches at Camp Perry, Ohio. However, I am getting ahead of myself.

The M1903 was developed because of dissatisfaction with its predecessor, the .30-40 Krag. In the Spanish-American War, many U.S. troops faced Spanish troops armed with M93 Mauser rifles chambered for the superb 7x57mm Mauser cartridge. One thing that impressed the Army the most was the rate of fire achieved by the Mausers using five-round stripper clips for loading. After several abortive attempts to come up with a clip-loading system for the Krag rifle, it was decided that a new rifle that allowed clip loading should be developed. It was also decided that a new rimless cartridge would be needed to avoid the feeding problems that can occur with rimmed cartridges like the .30-40.

What the ordnance people did was take the 7x57mm Mauser cartridge case and lengthen it and neck it up to take the 220-grain .30 bullet that was used in the Krag. This was called the .30-03 cartridge.

For a rifle, they took a long look at the Mauser M98 and then designed their own version. Unfortunately, most of the departures taken from the M98 Mauser design turned out to make the action worse instead of better. The M1903's cone breeching copied

from the Krag is far inferior to the Mauser breeching system with regard to case support, gas control, strength and safety in general. Similarly, the M1903's abandonment of the Mauser's simple one-piece firing pin resulted in a far more fragile and less reliable firing system, with an undesirable spongy firing-pin blow. Even worse is the fact that if the base of the detachable firing pin should break off at the same time that gas from a split case, pierced primer or case-head separation entered the bolt, the entire striker assembly could blow out of the bolt into the shooter's face.

Other changes from the M98 regarding the ejector, bolt safety lug, safety and bolt stop were less critical but certainly no improvement over that of the M98 Mauser. Likewise, the addition of a magazine cutoff really proved to be a particularly poor solution to a nonexistent problem.

Fortunately, several changes from the M98 Mauser proved to be improvements. Doing away with the large thumb cutout in the left receiver wall makes the M1903 a far stiffer action, an advantage when it comes to accuracy. Also, the trigger relationship with the grip is superior to that of the M98, as is the bolt fit into the receiver when the bolt is retracted. The tuned-down bolt handle of the M1903 makes for easier and faster operation of the bolt than that of the Mauser. The adoption of a 24-inch barrel for both cavalry and infantry use made the M1903 far handier than the Gewehr 98 rifle, with little ballistic sacrifice.

The original M1903 and its .30-03 cartridge is not the rifle we think of as the M1903. It had a pointed ramrod under its barrel that was supposed to double as a cleaning rod and bayonet. President Theodore Roosevelt took one look at this feeble



The safety lever is sited on the top rear of the bolt. Moving it all the way to the right puts the gun on Safe. The bolt is locked in the closed position, and the firing pin is blocked from forward travel.



The cocking piece gives the shooter a second chance at a faulty primer.

arrangement and "suggested" that a mounting for a proper bayonet like that of the Krag be developed. The changes suggested by Roosevelt were adopted in 1905, and the resulting rifle took a bayonet similar to that of the Krag except that it had a longer blade, reportedly to make up for the shorter reach caused by the M1903's shorter barrel. The rear sight was changed at the same time. While this rifle looked like what we think of today as an M1903 Springfield, one more major change needed to be made.

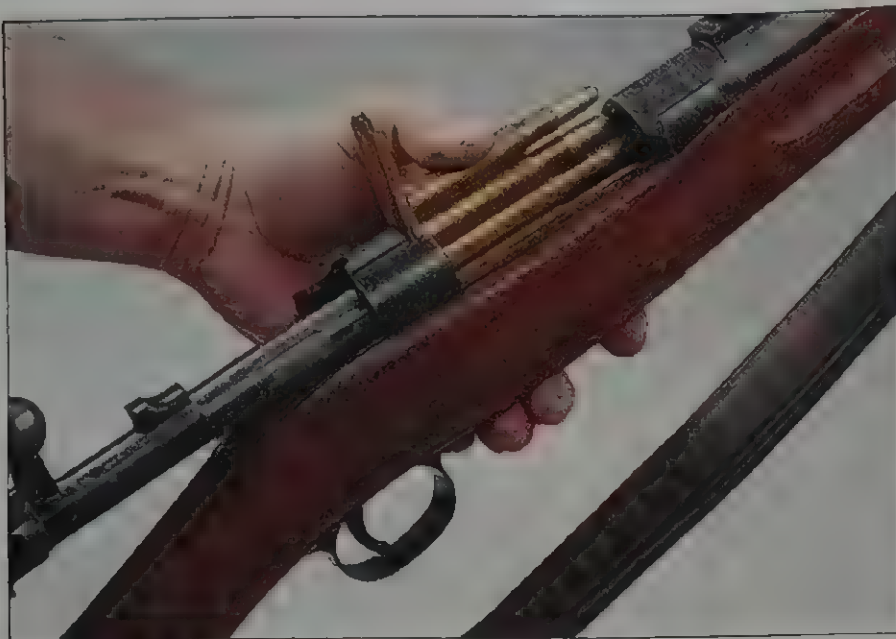
The year 1905 saw the German army adopt a new loading for its 8x57mm Mauser rifles. It launched a pointed 154-grain

bullet out of the Mauser's long barrel at a screaming 2,880 feet per second (fps) velocity. This load had a much flatter trajectory than our .30-03 and a much longer point-blank range, giving the Germans or any other force armed with similar ammunition a decided military advantage.

As a result, the bullet weight of our ammunition was lowered to 150 grains using a similar streamlined pointed bullet like that of the Germans. The muzzle velocity was upped to 2,700 fps. Between the wars this velocity was increased to 2,900 fps through the use of superior gun powders.

The sharper ogive of the new bullet necessitated shortening the

Model 1903 Springfield



Five rounds of .30-06 ammunition could be easily loaded into the 1903 box magazine via a stripper clip.

cartridge's case neck so that the overall cartridge length could remain the same as the .30-03. The resulting cartridge was the immortal .30-06. Virtually all of the then-existing ramrod bayonet and 1905 variations of the M1903 Springfield were converted to take the .30-06 cartridge by setting the barrel back two threads and rechambering for the .30-06 cartridge. In the case of the former they were modified at the same time to take the 1905 bayonet and sights.

Unmodified early M1903 rifles are extremely rare and valuable. The test to tell whether an early M1903 rifle is chambered for the .30-03 or .30-06 cartridge is simple. Simply run a rod down the barrel of an unloaded rifle until it reached the bolt face, and mark it tangent to the muzzle of the rifle. If it measures 23.8 inches it is a .30-06. If it measures 24.0 inches it is still a .30-03 chambering.

Since virtually all the rifles in service received the above changes, no change on nomenclature for the rifle was necessary. As the M1903 .30-06 continued in production it went through an evolution of minor and not so

minor changes, though its overall appearance changed little. These changes included the addition of one and then two stock crossbolts to help prevent the stock from cracking, changes to the shape of several parts, use of a checkered buttplate and the use of Parkerizing instead of the traditional blued finish.

In 1929 a full-pistol-grip stock called the Type C was developed and adopted for the M1903. It is one of the best-shaped and most comfortable rifle stocks ever put on a military rifle and a huge improvement over the standard straight-gripped stocks and stock blanks on hand before. It would be used on new rifle production except for National Match rifles. When an M1903 was fitted with a Type C stock it was designated as a M1903A1, though the markings on the rifle's receiver were not changed.

During WWII stocks were made using the Type C pattern but using blanks intended for the old straight-gripped stock. The blanks had insufficient material to give a full pistol grip, so the resulting stock has a peculiar shape in the pistol-grip area.

These are ugly stocks but still far superior to the original straight-gripped stock because of the former's higher comb and longer length of pull. They went by the official nomenclature of "scant" stocks. Such stocks are encountered on WWII-production M1903 (Modified), M1903A3 and A4, as well as M1903 rifles rebuilt during and after the war.

Prior to and during WWII, selected M1903 rifles were fitted with optical sights for issue to specially designated sharpshooters. Two sights were used, the Telescopic Musket Sight Model of 1908 and of 1913. These prismatic telescopic sights were pretty poor optically, but some good work was done with these rifles in WWII Europe. Surviving specimens are rare because the scope sights were removed from most of them when the rifles were declared obsolete. The sights were sold off as surplus, but the rifles had their specially modified receivers destroyed.

Late in WWI an interesting variation of the M1903 was produced. It was part a secret weapon system that was intended to help end the war. The most noticeable change was an oblong hole in the left side of the receiver and the use of a different magazine cutoff and sear. This rifle was capable of accepting a device that would replace the rifle's bolt with a slide, chamber and feed system that allowed semiautomatic fire of a short .30 cartridge almost identical to the French 7.65mm Long pistol cartridge. The magazine capacity was 40 rounds. The rifle was to be used conventionally at longer ranges but could be switched to a semiauto for close-range assaults or close-range defense against frontal assaults. Known as the Pedersen device, it was named for its designer, J.D. Pedersen, a prominent gun designer of the time.



The magazine cutoff is located on the left side of the receiver beneath the rear of the bolt. In the up position it does not allow cartridges to feed from the magazine, turning the gun into a single-shot. While the cutoff was not unique to the Springfield, it was basically a solution for a problem that didn't exist.



These are typical 1903 Springfield receiver markings. The gun was also made by Rock Island Arsenal and will be alternatively stamped with that manufacturer's designation.

The war ended before the Mark I and the Pederson device could see action. About 101,000 M1903 Mark I rifles and 65,000 of the Pederson devices were produced. All were put in storage for possible future use. Unfortunately, in 1931 they were declared excess, and virtually all the devices and 60 million rounds of the special .30 ammunition were destroyed. Less than 20 surviving specimens are known to exist. In 1937 and 1938, the existing Mark I rifles had their special parts replaced with standard parts and were reissued as standard M1903 rifles.

One extremely significant change occurred during WWI. It was discovered that the heat treatment of the M1903 rifle's receiver was poor in a significant but unknown percentage of the rifles. In many cases the receiver and/or bolt had been heated to an excessive degree during treatment. This resulted in a weak receiver that could fail when firing standard ammunition. The number of rifles with this problem was unknown because the only way to identify them required destructive testing. Even the receivers and bolts that did not get overheated often proved to be excessively brittle and prone to fail with overloaded ammunition or when gas entered the action from a split cartridge case.

Two approaches were taken to correct this problem. Rock Island Arsenal went to a double heat-treating system but quickly changed to using a tough nickel-steel alloy for its receivers and bolts. Springfield Arsenal initially used a double heat-treating system that resulted in a hard surface and soft interior on the bolt and receiver. Later, the nickel-steel alloy was adopted by Springfield Armory as well.

The cutoff serial numbers for the inferior single heat-treated actions that are potentially dangerous is 800,000 for Springfield Arsenal-made rifles and 285,507 for Rock Island Arsenal-made rifles. All M1903 rifles with serial numbers below these numbers are designated as "low-number M1903s" by collectors and shooters. Based on Ordnance Department research and subsequent testing by other researchers, most authorities do not consider low-number M1903 rifles suitable for shooting. While chances of receiver or bolt failure are remote, the risk is still high enough that shooting these old guns is not justifiable.

Once this problem was identified, issue of low-number M1903 rifles ceased, and any returned to ordnance facilities for work were withdrawn from service. The bal-

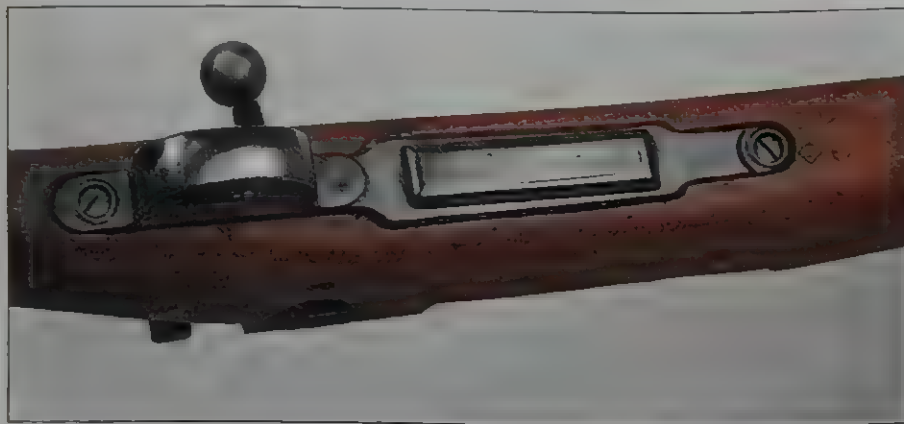
ance of the low-number rifles in stock were held in strategic war reserve. During WWII they were fitted with nickel-steel bolts, proof-tested and supplied to Allied forces like the Free French, the Chinese and others.

Original low-number military specimens should be kept as valued collector's items but not fired. Naturally, the same holds true for high-quality sporting rifles built on low-number actions. Beware of sporters built on rifles with the receiver matted or otherwise altered so that the original serial number is not visible. Unscrupulous vendors of years past often did this to make low-numbered rifles more saleable.

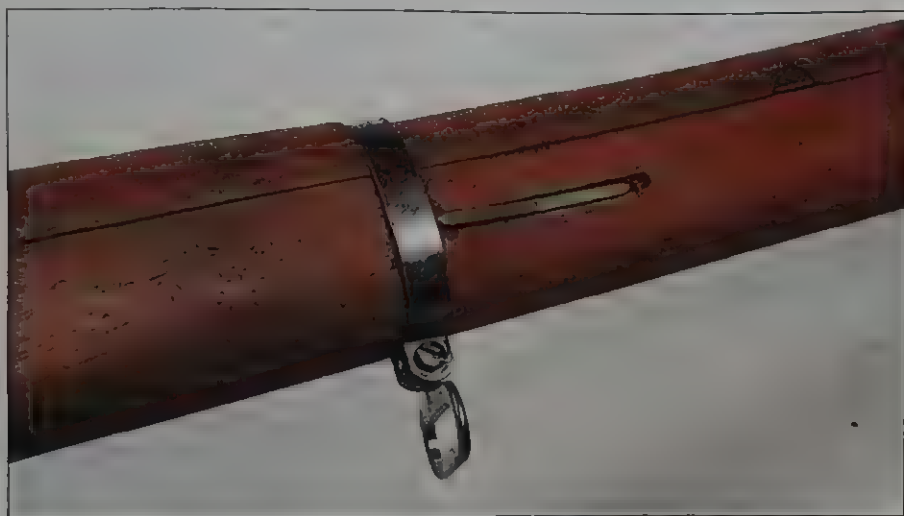
Rifles in the M1903 series are called "Springfields" regardless of who made them since they were designed and developed at Springfield Arsenal. The series was made at Springfield and Rock Island arsenals until the close of WWI. Shortly after the war, RIA production was shut down, never to be resumed. Between the wars, virtually all the manufacturing requirements for the M1903 were conducted at Springfield.

When WWII broke out in Europe, it was arranged for Remington to acquire the RIA tooling to produce the M1903 for the British, who were in dire need

Model 1903 Springfield



Manufacturing shortcuts on the 1903A3 involved stamped parts, such as the floorplate, barrelband and sling swivels. The one-piece cannot spring open as it can with the milled version.



of military rifles. Only about 30,000 of these Remington-made M1903 rifles were delivered to the British, while all subsequent production was retained for U.S. military use. It would appear that the British used these M1903 rifles for Home Guard and other non-front-line use. These Remington M1903 rifles are generally identical to arsenal-produced rifles except that they appear to have superior metallurgy and heat treatment. By this time Springfield Armory was busy producing M1 Garand rifles, and all M1903 production fell onto Remington, though Springfield continued to produce barrels and some other parts for rebuilding purposes.

Remington pointed out to the ordnance folks that they could produce more of these rifles at a

lower cost if various shortcuts were taken in its manufacture. Best of all, the resulting rifles would be functionally equivalent to their more expensive brothers. The Army Ordnance approved the change and called the rifle the M1903 (Modified). The changes centered around eliminating functionally unnecessary milling cuts and replacing the trigger housing, bands, swivels and such with fast and easy-to-produce stampings. These M1903 (Modified) rifles were found with a different variety of stamped parts as each change was phased in. The stamped trigger housing seemed to be the last such change instituted.

Remington then proposed to take the simplified M1903 one step further. By modifying the receiver slightly, a quite function-

al peep sight could be fitted. This change by itself saved the two-pounds of steel required to manufacture the old 1905-type sight. Best of all, the new receiver sight was a far better combat-rifle sight than the 1905 sight could ever hope to be. This new M1903 variation was given the designation of M1903A3.

Another shortcut taken by Remington with the Ordnance Department sanction was to get permission to use barrels with two rifling grooves instead of four. Such barrels proved able to meet the required performance criteria and were much faster to produce when the cut-rifling method was used. Later in the war Remington went to button rifling, where there is no production advantage for having only two grooves instead of four, and four-groove barrels were subsequently reinstated. However, most M1903A3 rifles have two-groove barrels.

In mid-1942, Smith-Corona, the typewriter manufacturer, tooled up to produce the M1903A3 rifle with Remington's help. Though a bit more crudely finished than the Remington product, these were solid rifles. Interestingly, some Smith-Corona rifles have six-groove barrels, though two- and four-groove barrels are much more common.

The M1903A4 Sniper Rifle was a slightly modified M1903A3 variation without iron sights but mounting a scope in a Redfield Jr. mount. Most of the M1903A3 markings are offset so as not to be covered by the scope mount. This variation featured a full pistol grip or scant stock, a bent and relieved bolt handle to clear the scope and a notch in the stock to accept the lower bolt handle. The scope used throughout WWII was the Weaver M73B1 or its commercial equivalent, the 330C. Its low magnification (2.2X), delicate construction, poor optics and lack of moisture-

proofing made it a poor scope for military sniping. Combined with the fact that the M1903A4 rifles were not manufactured to a higher standard than the M1903A3 rifles, nor selected for the superior performance, made the M1903A4 a pretty sad excuse for a sniper rifle. However, it was the only one fielded in quantity by the U.S. Army during WWII.

When the dust of WWII settled, Remington had produced over 1 million rifles in the M1903 family: M1903 and M1903 (Modified), 348,085; M1903A3, 707,629; and M1903A4, 28,365. Smith-Corona produced a respectable 234,580 M1903A3 rifles.

The total production of M1903 rifles by Springfield Armory was about 1,500,000 rifles while Rock Island Arsenal produced about 346,000 rifles, with as many as 150,000 spare receivers built between the two. Many of these were assembled into rifles during WWII. Total M1903 production from the two arsenals approaches the 2 million mark.

During WWII the U.S. Marines fielded small quantities of M1903A1 rifles brought up to match standards and fitted with a Unertl 8X target-type scope. These were superbly accurate rifles, but few were made and often the jungle-type environment confronted by the Marines did not lend itself to long-range sniping.

The major problem with the M1903 rifle as a military combat weapon was its sights. The 1905 sight has to go down in history as the worst combat sight ever put on a rifle. First, it is fragile and prone to damage, as is the thin front-sight blade. In its normal folded-down position, the fine open-notch battle sight has a zero of 547 yards. This means that any shot taken with this sight at normal combat ranges will require aiming as much as four feet under



Barrels were stamped with the manufacturer, date and Army Ordnance symbol (above). Remington built more than 1 million excellent Model 1903s.



your target or you will shoot over the target. When flipped up, the sight offers you several open-notch sights as well as a fine peep. This is both confusing and complicated. The peep is so fine and located so far from the shooter's eye that it is difficult to use under ideal conditions, let alone under combat conditions. Further, anyone without perfect eyesight may find the sight impossible to use under any conditions.

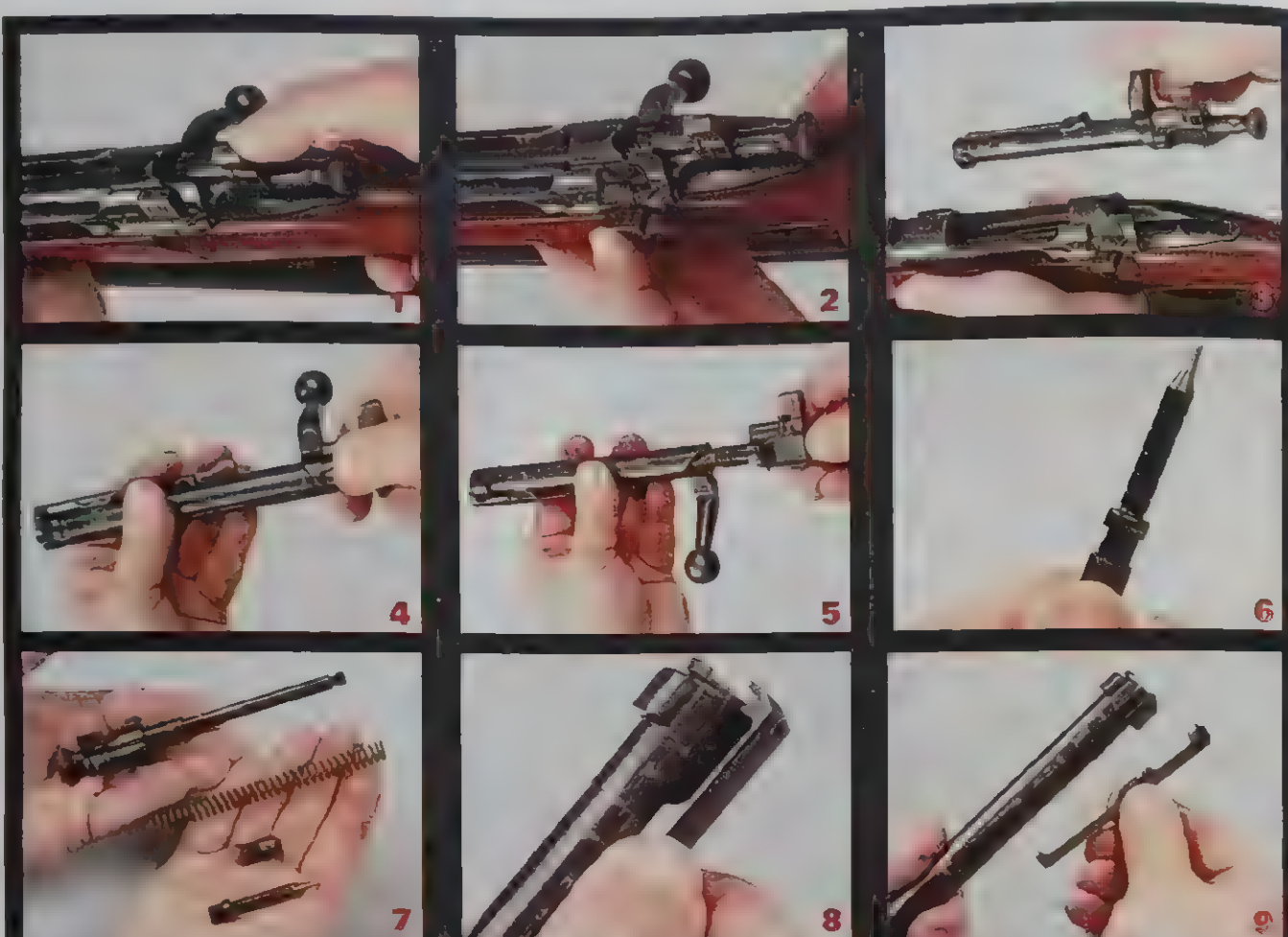
The Marines designed a fix for this awful sight that at least made it usable. They put on a higher and thicker front-sight blade and gave it an ample-size snap-on cover for protection that could remain in place in the field. Then they replaced the aperture of the 1905 sight with an insert that did away with all the notches and holes and replaced it with a single large peep hole.

The net result was a sight that was vastly superior optically, a stronger front sight that was protected from damage and a battle-

sight zero of a realistic 200 yards. With this sight a soldier or Marine could do a reasonably good job with his rifle in combat conditions. Unfortunately, the Marine Corps' sight for the M1903 came along after WWI and was used mainly between the wars. It was lost in the shuffle when WWII broke out and saw little action.

When push comes to shove the M1903A3 was the best version of the M1903 family for use as a combat rifle, particularly when fitted with a Type C full-pistol-grip stock or even a scant stock. Most of the parts that commonly failed on M1903s, like the firing pins, ejectors and such, rarely failed on the M1903A3 because of superior metallurgy and heat treatment on Remington's part. Even the stamped triggerguard housing offered fewer problems because a common field ailment of the M1903 was for the floorplate latch or latch spring to fail and dump the magazine's contents to the ground. The stamped version had

Model 1903 Springfield



To fieldstrip the 1903, first open the action, and ensure the gun is unloaded. Next, close the bolt, and place the safety in its midpoint position (1). Move the cutoff to its middle position (2). Remove the bolt (3). Push in on the bolt sleeve detent (4), and unscrew and take out the bolt-sleeve firing-pin assembly by turning it counterclockwise (5). To release the firing-pin tip, compress the mainspring by withdrawing the pin sleeve all the way rearward (6). Once the sleeve is back and the striker tip is removed, the mainspring, striker rod and cocking piece are freed (7). To remove the extractor from the bolt, grasp the collar, and turn it to the right with the bolt face up (8). It can now be driven forward off the collar (9).

no floorplate or latch at all. Finally, the M1903A3 rear sight, while not perfect, was a vastly superior combat sight to that of the M1903, even with the USMC improvements.

One often hears that the M1903 was the most accurate military rifle ever fielded. This comes from the performance of the superbly accurate and specially built M1903 National Match rifles made between the wars, which were and are incredibly accurate rifles. This reputation was also aided by the superb National Match ammunition built by our arsenals. However, if standard-issue military rifles are

compared, there are several foreign and domestic rifles that can equal or better the M1903 with ease where accuracy is concerned. Some that come to mind are the M1911 and later Swiss Schmidt-Rubin rifles, the Finnish M28/30 and M39, the Canadian Ross Mark III, the Swedish and Czech Mausers and our own Model 1917 "Enfield."

As a combat rifle the M1903 left a lot to be desired in terms of durability, practical accuracy (remember the miserable sights), comfort of use (mainly with the straight-gripped stock) and safety. In spite of all that, it has a large claim on greatness because it was

the first home of the immortal .30-06 cartridge, and it was the inspiration for such great sporting arms as the Winchester Models 54 and 70. It was the rifle that truly introduced the bolt-action system to the civilian market. It was also the rifle that the U.S. civilian marksmanship program used to climb to its peak between the wars. Even post-WWII baby-boomers like myself often learned our marksmanship skills shooting a venerable old M1903 or M1903A3.

There is no question that, in spite of its warts, it is a grand old rifle that has served its country well in both war and peace. ☺

The NAVAL LUGER



Adopted in 1904, this was the first auto accepted by the German military.

By Garry James

The 1904/06 Naval Luger was a superb piece for its day and incorporated features peculiar to the Reichsmarine. It is shown atop a World War I Naval Field Division officer's uniform.

It is unquestionably the most recognizable handgun silhouette ever and the GI's favorite trophy of two World Wars.

In the imagination of the general public, the Luger is the quintessential handgun of the "Itan" or Nazi army officer, though few really know that this germinal handgun was first accepted into service by the German navy, not the army.

The Naval Luger



The gun was comfortable to shoot either offhand or using the supplied shoulder stock. The adjustable sight aided in long-range accuracy.

The gun, designed by Georg Luger and based upon themes by Hugo Borchardt, first appeared on the scene in its more-or-less final version just before the turn of the century. Originally chambered for a .30-caliber round, the Luger's first large military contract was with the Swiss.

In 1904 the Reichsmarine accepted the gun, though in the then-new 9mm Parabellum round. The gun's original barrel length of 4 inches was stretched another 2 inches, and the piece was equipped with a two-position adjustable rear sight with a fixed notch for 50 meters and two other positions of 100 and 200 meters. It was felt that this sophisticated sight arrangement and longer barrel would be practical in ship-to-ship and ship-to-shore engagements and that it would not hinder the gun's employment by landing parties. As it turned out in World War I, not a few Marine Model 1904 Lugers were actually used in the trenches by officers of naval field divisions.

The piece was equipped with a removable wooden shoulder stock, which could be easily attached to the gun via a sturdy lug on the heel of the backstrap. This stock was lashed to a heavy full-flap holster so that the whole unit, including the pistol, could be easily carried slung over the shoul-

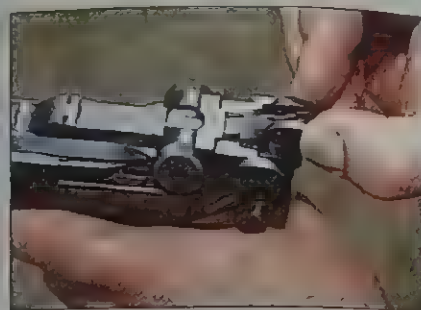
der, ready for use. The carry strap was generally fitted with a pouch to hold two spare magazines.

Like other Lugers, the gun was a locked-breech design that employed a strong, responsive knee-joint-type toggle mechanism.

The manual safety on the Model 1904 was a positive lever on the left rear of the frame. When the lever was pushed downward covering the word *Gesichert* ("Made Safe"), the piece was ready to shoot. The gun had a grip safety as well.

The magazine was a sheet-steel affair featuring a wooden bottom piece with concentric knurled rings to facilitate removal. It held eight rounds. As the follower spring was quite stiff, a small button was located on the side of the mag to assist in loading. This knurled stud was found to be a bit rough on the fingers, so a combination tool, which slipped over the button, was provided. The tool was carried in a small pouch on the inside of the holster flap. Magazine release was a button on the left side of the frame at the base of the triggerguard.

Grips involved well-fitted, finely checkered walnut panels. The Model 1904 fell prey to a number of changes over its short career. These included the substitution of a durable coil recoil spring for the original leaf style and the removal of a toggle lock spring from the right toggle knob.



The two-position rear sight on the Naval Luger is graduated to 100 and 200 meters because authorities felt that these ranges might be encountered in ship-to-ship or ship-to-shore engagements.



The 04/06's safety was a standard Luger lever style, though it had been altered around 1908 by reversing positions to make it similar to the army version.

This updated variant is called by collectors the Model 1904/06. Around 1908, when the German army finally adopted Herr Luger's pistol, it was decided to alter the safety to conform with that of the P08, and the Safe and Fire positions were changed. This necessitated the removal of the word *Gesichert* from the lower position and restamping it at the top. Not all 1904/06s were altered this way, and these guns do bring a premium with collectors.

To fieldstrip the Luger, first remove the magazine, and inspect the chamber to ensure the gun is unloaded. Then press the muzzle against a block of wood to ease tension on the recoil spring, and rotate the locking bolt downward. Remove the triggerplate, and slide the barrel assembly forward off the frame. Buckle the toggle slightly, and push out the axle pin. Pull the toggle/bolt assembly from the rear of the frame. Reassembly is in the reverse order, though when putting the gun back



To fieldstrip the Luger, first remove the magazine and ensure the gun is unloaded (1). Next, press the muzzle against a piece of wood to relieve recoil spring tension and rotate the locking bolt downward (2). Remove the triggerplate (3). Slide the barrel assembly forward off the frame (4). Buckle the toggle slightly and remove the axle pin (5). Slide the toggle/bolt assembly from the rear of the barrel assembly (6).

together, take care to hook the toggle coupling link into the recoil-lever arms.

It was an altered-safety Model 1904/06, manufactured by Deutsche Waffen und Munitionsfabriken (DWM), that was made available to us for our evaluation. Condition was excellent (about 95 percent), and the gun came with a holster/shoulder stock setup.

Ammunition chosen for our shooting test was Black Hills 115-grain (the original German Parabellum cartridge bullet weight).

We took our 04/06 to the Petersen Ranch at Lake Elizabeth, California, for its run-through as no German World War I-vintage

armored cruisers or submarines happened to be in the Port of Los Angeles at the moment.

Chosen ranges and positions were 25 yards rested, 25 yards off-hand and 100 yards using the shoulder stock.

Loading the magazine using the special tool was very easy, and the mag itself firmly held in the gun when clicked into place.

Our first groups were fired from the rest. One chambers a round by simply pulling up on the toggle upward by the dual knobs and then releasing it. While this is considerably different than the action one uses on a Browning-style auto, with a bit of practice it becomes every bit as simple and positive.



From a rest at 25 yards the 04/06 performed extremely well, giving us 2-inch average groups.

The trigger, though initially a tad long and spongy, broke at a crisp three pounds. Recoil was brisk but not unpleasant. At 25 yards, our first five-shot group measured a scant 1¾ inches, with subsequent spreads averaging just over two inches. As expected with a rear sight regulated for 100 meters, the bullets struck about eight inches high.

Offhand 25-yard spreads widened to about four inches. The gun proved to be comfortable to hold and a natural pointer, two attributes that have been reaffirmed over the years by many, many shooters.

At 100 yards the gun performed surprisingly well with the shoulder stock attached, giving us pretty regular five-inch groups, though the gun again shot fairly high.

As a Naval Luger is a pretty valuable collector's piece, we limited shooting to about 100 rounds, and by the end of the session reliability proved to be 100 percent.


I have always been fond of Lugers as one of my first handguns was a pristine late-1930s-vintage Mauser-made P08. In later years I fired most variants of the Luger to include Artillery models and an ultra-rare .45 variant. Still, I can't remember any that were more pleasant or accurate than the 1904/06. As well as a very handsome auto, it has proven to be a reliable and accurate one, with tons of history thrown into the bargain. ©

Martini-Henry

This rugged, reliable British single-shot rifle was used by regular and colonial forces worldwide.

By Garry James



A detailed photograph of a collection of historical military artifacts. A Martini-Henry rifle is the central focus, lying horizontally across the frame. To its left, a sword with a dark hilt and a scabbard is visible. Below the rifle, there is a small, rectangular tin or canteen. The background is a textured, light-colored surface, possibly a cloth or paper, with some other smaller items scattered around.

It's interesting how motion pictures can affect the firearms market. There is no better case in point than the Martini-Henry/*Zulu* phenomenon. Some 36 years ago, director, writer and producer Cy Endfield brought out a film extolling the exploits of a small contingent of British and Colonial troops at a mission station in South Africa who made

a heroic stand against thousands of highly disciplined Zulu warriors.

This 1879 engagement, which came to be called "The Battle of Rorke's Drift," garnered more Victoria Crosses for its participants, per capita, than any other single engagement in British history. The film, *Zulu*, featured actors Stanley Baker, Michael Caine and Jack Hawkins, among others, though it could be said that the real star of the picture was the .577-.450 Martini-Henry rifle. It was showcased prominently and was given much credit for winning the day.

Almost as soon as the film appeared, interest in this heretofore obscure British military single-shot rifle began to increase—to the point where today it is almost impossible to find a good Mark I or Mark II M-H in any kind of condition for anything approaching a realistic price. I was fortunate enough to buy a Mark II a good number of years ago, along with a Mark I Martini-Henry Cavalry Carbine and Artillery Carbine, and have probably turned down more offers for them than any other guns in my collection. Fortunately for collectors (and shooters), recently, International Military Antiques (Dept. SF, 1000 Valley Rd., Gillette, NJ 07933, 908/903-1200) has brought in a large number of Martinis in different models and condition. They have never

The Martini-Henry rifle was a rugged, powerful single-shot that served British and Colonial forces for several decades. It saw use in such disparate locales as Canada, Africa, China and Australia. Gun and equipment from author's collection

Martini-Henry



As well as an infantry version, the Martini-Henry was made in Cavalry (top) and Artillery carbine versions (above). The latter is probably the scarcest of the three. This example was made by W.J. Jeffery & Co. for British Volunteers. Its sword bayonet has a sawtooth edge for use by pioneers.



The M-H was reliable, though a pretty stout kicker. Ammo could be loaded and ejected pretty rapidly. The lever under the stock provided excellent leverage. Cases were thrown well clear of the receiver.

been so available as right now.

To be fair, the Martini-Henry has much more virtue than being just a pretty face on the screen. It was a robust, reliable, hard-hitting rifle that served British and Colonial troops around the world for several decades.

Its history actually began in America in the late 1860s, where a falling-block, exposed hammer breechloader was contrived by gunmaker Henry O. Peabody. The "Peabody" was evaluated briefly by the U.S. and was actually

issued by the State of Massachusetts.

Naturally, Peabody was interested in overseas contracts, and his system was widely exposed in Europe, where the Romanians and Turks thought highly enough of it to adopt it in 1868 and 1877, respectively. The Swiss were also quite taken with the gun, and they reworked it to a considerable degree, substituting an internal hammer and heavily reworking other parts of the mechanism. This "Martini" (named for the designer, Fredrich von Martini) eventually made its way to the British rifle trials where, after considerable testing, it was mated to a barrel with rifling devised by Scottish smith Alexander Henry.

The "Martini-Henry," as the rifle was now called, was chambered for a powerful .577-.450 round, which employed a lengthened .577 Snider (the previous British service round) case, necked down to .45 caliber. These early Boxer rounds were of coiled brass foil, with separate black-painted iron bases. The 480-grain, paper-patched lead bullet was backed with 85 grains of black powder, which pushed it along at some 1,350 feet per second (for

comparison, the American .45-70 infantry round moved its similarly weighted projectile out at some 1,250 fps). As this same caliber was used in the British military's Gatling guns, it was found that the repeater's harsh extractors were ripping the bases off the coiled cases, so drawn-brass cartridges were devised. These could also be used in the M-H. Too, a lighter carbine load was offered that employed a 405-grain bullet.

The Martini-Henry was quite strong and simple to operate. To work the action, one simply lowered a lever located beneath the wrist of the stock to drop the breechblock and expose the chamber. A round was manually inserted and the action closed. The gun was now ready to fire. Opening the action again vigorously expelled the spent case and readied the piece for another round. Though the Martini-Henry did not have a safety, authorities wisely added a tear-shaped cocking indicator on the side of the action. Back, the indicator showed that the gun was ready to shoot; forward, it was uncocked.

In early tests it was found that if the shooter gripped the rifle in the usual manner with the thumb



The standard Martini-Henry infantry rifle had a 32-inch barrel, measured 54 inches overall and weighed some nine pounds. Bayonets included a triangular model for "other ranks" and a wavy-bladed yataghan-style for sergeants.

over the wrist of the stock, the gun's substantial recoil could cause the shooter's knuckle to be slammed into his nose, causing injury. To alleviate this problem, a knurled thumbrest was milled out of the top of the receiver, allowing the protruding digit to be positioned harmlessly forward.

The Martini-Henry infantry rifle was 54 inches long with a barrel of 32 inches. It weighed a well-balanced nine pounds. Although authorities were disappointed with long-range accuracy, the rear ladder sight was graduated to an optimistic 1,450 yards. The front barleycorn sight also served as a bayonet stud for the "other ranks" (enlisted men's) 21½-inch-long triangular bayonet. Sergeants were issued a 22½-inch wavy-bladed yataghan-style sword bayonet, which snapped onto a stud on the right side of the front barrelband. As well, naval-style cutlasses and straight-bladed artillery swords were devised for the Martini.

My own Martini, which we opted to use for our test piece, is a Mark II made in 1878. After serving British regulars it was apparently sent Down Under where it was given a deep "S.A." (South Australia) stamp in its receiver.

Original ammo is generally unshootable, though you can reload for the piece. In fact, I used to fabricate quite a bit of .577-450 fodder, until the Northridge earthquake wiped out my reloading bench and scattered my forming and reloading dies into nooks

and crannies of the garage, as yet undiscovered. As in so many times in the past, Dave Cumberland of The Old Western Scrounger (Dept. SF, 50 Industrial Parkway, Carson City, NV 89706, 775/246-2091) came to the rescue in the form of some lovely new drawn-brass, Berdan-primed black-powder loads featuring issue-style 480-grain lead bullets.

We took our Mark II to the Petersen Ranch in Lake Elizabeth, California, for a going-over. Despite the gun's substantial heft, recoil was a tad on the stout side, though certainly not prohibitive. I had to remind uninitiated shooters to use the thumbrest and as a result, had no bloody noses to doctor. The trigger pull came in at a very crisp nine pounds, and the gun operated flawlessly, allowing spent cases to be ejected just close enough to the receiver where they could be caught by the shooter's right hand—if he could move quickly enough.

Accuracy, as I have experienced in the past, was pretty ho-hum, with 100-yard groups coming in at between six and eight inches. I can attest this is no fault of the ammo as I have had similar results with my handloads and some Kynoch smokeless loads in the past. One can't blame the rifling either as the bore was pretty close to pristine. I guess this is just about all one can expect out of the old war-horse using military-style rounds. Someday, when I put my bench back together and



The M-H chambered a powerful .577-.450 black powder round. Early cartridges (left) were made of rolled brass with separate bases. Ammo used for our evaluation (right) had drawn cases and was supplied by Old Western Scrounger.

manage to come up with some way to cram 36 hours into a day, I'll take a stab at tailoring some loads for the piece. I am just not satisfied that it won't shoot better than that.

Still, tackdriver or not, the Martini-Henry has always been one of my favorite guns (yes, I saw *Zulu*, too, when it came out, and it eventually led to an overall enthusiasm for British arms and militaria). While I have gone through several collections, the old M-H has remained, and I have every expectation that its presence in my house will probably outlive mine. ©

The Johnson M1941

Although it never replaced the Mighty M1, this intriguing artifact set the stage for the concept of a "special operations" weapon.

By Payton Miller



A WWII USMC "reversible camo" field jacket, a .30-caliber "spam can" of ammo, several five-round stripper clips, a USMC Parachute Regiment shoulder patch and Bruce Canfield's exhaustive reference work all combine to make a suitable backdrop for the Johnson M1941.



I first heard about the Johnson semiautomatic rifle at a tender age. My father had been a WWII Marine Paratrooper (they called them "Paramarines" back in those days). Dad told me about places like Camp Elliott (near San Diego), New Caledonia (near nothing except saltwater) and Vella La Vella (in the Solomon Islands).

The Marine Parachute Regiments were eventually disbanded along with the Raiders, and Dad was reassigned to the 28th Regiment, Fifth Marine Division at Camp Pendleton (along with many other Paramarines and Raiders). From there he was shipped off to Iwo Jima—as a flamethrower operator/rifleman—to take part in what he always referred to as "The Great Conflict."

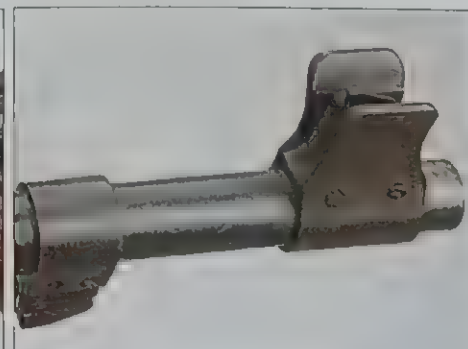
Anyway, Dad spoke often of two weapons he'd trained with in the Paratroops. First was the .45-caliber Reising submachine gun, of which he (and others) had a rather low regard. The second was the .30-caliber Johnson semiautomatic rifle, a weapon that was manufactured in Providence, Rhode Island.

Aesthetically, the Johnson made the M1 look positively sleek. Its pregnant-looking receiver with a stamped metal bellyband made the midsection look

somewhat like a cigar. The unshrouded barrel looked naked and, well, whippy. On top of that, it had a ventilated metal handguard, sort of like an overgrown Ruger Ranch Rifle. Pretty Buck Rogers for its time indeed.

Instead of the eight-shot en-bloc clip of the M1, the Johnson employed an integral 10-round rotary magazine that could be charged quickly with two Springfield '03 five-round stripper clips through the loading port on the right side of the receiver. The Johnson could also be quickly loaded with single cartridges, allowing the user to "top off" the magazine at will. From the prone position, the Johnson could be loaded without the shooter having to shift the rifle or, more important, raise his head.

In a copy of my father's February 1996 issue of *The Opening Shock*, a publication for



The Johnson features a fully adjustable aperture rear sight (left) and an M1-style post front (right) with sturdy, protective "ears."

Lynne McCready photos

The Johnson M1941



The Johnson (top) failed to supplant the legendary M1 Garand (above) in the hearts and minds of U.S. Army brass.



The fact that the Johnson's barrel could be easily removed was one of the features that appealed to Marine Paratroop personnel. It also facilitated cleaning and/or replacement. The bolt head locks against an "abutment collar" (inset).

the Association of Survivors of World War II Marine Parachute Regiments, the title of an article by one Joe Aiello's was pretty straightforward: "The Johnson was the Best." In it, Aiello talks about taking part in a field-test comparison with the new Johnson rifle at San Diego's Marine Corps Recruit Depot. One platoon was issued the M1 Garand, one was issued an experimental Winchester auto, and Aiello's platoon was given Johnsons. Said Aiello of the Johnson:

"In my opinion, and others', it was the best rifle of the three. I believe the only reason the Johnson was not adopted was that the Army already had thousands of Garands, and it wouldn't have been politically correct to throw them out."

This wouldn't have surprised Melvin M. Johnson, the rifle's designer. He was convinced his

design was superior to that of the M1. According to Bruce N. Canfield, author of the invaluable reference work *Johnson Rifles and Machine Guns* (Mowbray Publications, Dept. SE, Box 460, Lincoln, RI 02865; 800/999-4697), Johnson felt the M1's long operating rod could be easily bent, the gas-trap mechanism was prone to fouling, and the fact that most of the barrel was encased in wood would promote overheating. He was convinced that a short-recoil system, such as the Remington Model 8 and Winchester 05, was superior.

Before the war, Johnson tried (with the help of some sympathetic congressmen) to get the Army to replace the Garand with his rifle, and field trials were held in December 1939. At their conclusion, the Army's evaluation listed several significant strengths—and weaknesses—of the rifle. On the plus side, it could be

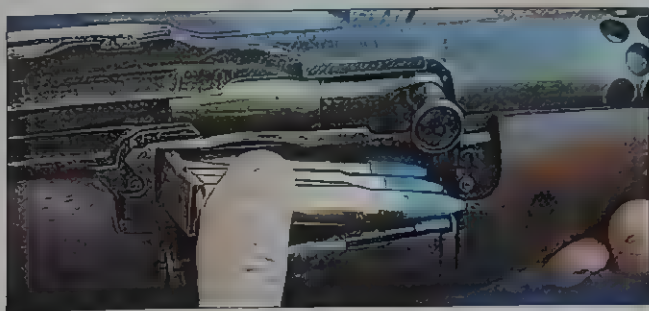
disassembled and assembled quickly without specialized tools, the barrel could be easily removed for cleaning or replacement, it proved functionally reliable in sandy conditions, and it was "reasonably" accurate. The negatives? The Johnson weighed more than 10 pounds (about a pound more than the M1), the recoil was perceived as no less than that of the bolt-action '03 Springfield, and the absence of a handguard made it "poorly suited" to bayonet fighting.

Later, considerable ill will developed between Johnson and General Wesson, then in charge of the Army Ordnance Department, over a Johnson-to-Wesson letter that the general perceived as a veiled threat. To make a long story short, the gas-operated M1 prevailed, and the rest, as they say, is history.

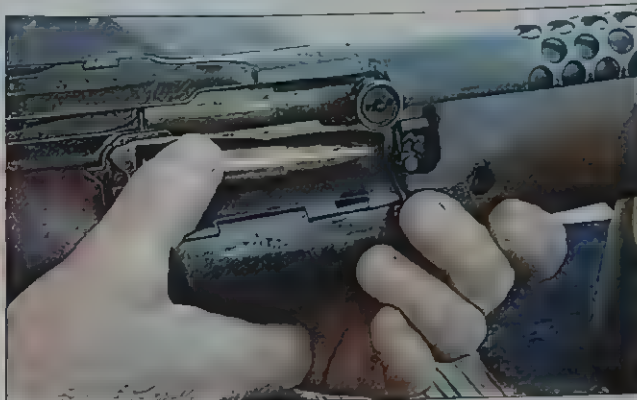
In fact, Johnson's relationship with the Army Ordnance Department was still contentious even in the mid-1950s when, while promoting the Armalite AR-10, his presence at a demonstration of that unjustly neglected rifle in front of Army brass did little good for the Armalite cause.

But the Marine Corps was interested in the Johnson rifle and the Johnson Light Machine Gun, a select-fire variant featuring a bipod and curved, side-mounted 20-round magazine. In 1943 the First Parachute Regiment procured 243 M1941 Johnson rifles and 261 Johnson LMGs. But the Johnsons hadn't been made specifically for the USMC. They'd been purchased from the Netherlands Purchasing Commission, which had contracted Johnson Automatics Inc. to build them for the Dutch military. And specialized Marine Parachute and Raider formations employed it as a "nonstandard" weapon.

In July 1942 the War Department finally contracted for 12,500 Johnson LMGs and 124,100 rifles, but in October of that year the order was terminated. The reason,



The Johnson semiautomatic rifle could be loaded by stripper clip (above) or with single cartridges (right).



according to Canfield, was that the government simply decided to bolster production of the bolt-action M1903A3 as a supplemental service rifle, and that increased production of the Browning Automatic Rifle virtually eliminated the need for a supply of Johnson LMGs. There were smaller Navy and Marine contracts, and a couple for some South American countries (in 7x57), but once they were filled, that was pretty much it for the Johnson, although the LMG saw use with the U.S. Army's First Special Service Force in the European Theater.

In several instances, both rifle and LMG performed spectacularly in battle. Canfield cites one such instance:

"Any thought that the Johnson rifle was not suitable as a combat weapon was put to rest by Platoon Sergeant Harry M. Tully of the First Parachute Battalion. Tully, armed with an M1941 Johnson semiautomatic rifle, killed 42 Japanese at ranges up to 800 yards on Gavutu."

But fate, it seemed, once again conspired to favor the Garand. Tully's Silver Star feat was written up in *Look* magazine, but in the artwork for the story the intrepid Marine sergeant was depicted holding an M1.

It turns out, however, that old Paramarines and Raiders aren't the only fans of the Johnson. My friend Thomas Mackie, a connoisseur of U.S. military small arms of WWII vintage, is a major-league Johnson aficionado. Better still, he owns one that isn't minty enough to preclude

a range session. A "new in cosmo-line" Johnson is worth tall dollars today, around \$2,500 according to Fjestad's *Blue Book of Gun Values*. (Those "own one for \$87.50" mail-order ads old-timers may remember from pre-1968 GCA gun magazines are seriously dated.) Thomas' specimen had been given a Pachmayr recoil pad at some point, so it really wasn't "dead stock." But as something of a bonus, Thomas has (now had) a mess of early-'50s .30-06 ball ammo of FN vintage in five-round strippers to run through the rifle.

Thomas and I took the Johnson to Angeles Shooting Range (Dept. SE, 12651 Little Tujunga Rd., San Fernando, CA 91342; 800/499-4486). There we gave it a considerable workout with Thomas' GI ammo, some 165-grain Speer Nitrex loads and some PMC Gold Line loads featuring 165-grain X-HP bullets. We set up our target at 100 yards and began to shoot at a gong with FN surplus ammo just to get the feel of things—which we did after 100 rounds or so. I was mightily impressed with the Johnson's reliability—nothing even resembled a malfunction, although that mushy, six-pound trigger required a bit of getting used to.

One thing I quickly learned was to resist the temptation to "ride" the bolt while charging the rifle. Although earlier Johnsons had a bolt "hold open" feature, this one didn't (Johnson, according to Canfield's book, didn't like

them). I quickly learned to simply load the magazine, pull the bolt back and let 'er fly. The sights, incidentally, consist of an M1-style front blade protected by large ears and a fully adjustable aperture rear graduated to 1,000 meters. They're excellent, rugged and easy to acquire.

Our results on paper were about on par with what you'd expect from a vintage M1. The two sporting loads didn't group worth a whoop, but that old FN ball ammo did pretty good; with it, our five-shot 100-yard efforts ran between 4½ and five inches. We did have a couple of two-shot groups of around an inch or so, but the rifle simply wouldn't lay that third one in, no matter how hard we tried.

Taking the barrel off the Johnson for cleaning is a snap. First, verify that it's unloaded. Place the butt of the rifle on the floor, and push down slightly on that recoiling 22-inch barrel. As you're holding it down, insert a small punch (use a .30 cartridge tip if you feel like being authentic) into the hole on the right side of the fore-end about four inches back of the sling swivel. As you push it in firmly, it should release the springloaded locking lever. The barrel can now be pulled out easily.

Whatever weaknesses the Johnson may have had in comparison to the Garand, the Johnson is a fascinating piece of WWII ordnance and a lot of fun to shoot. ©

1911/1911A1 Government

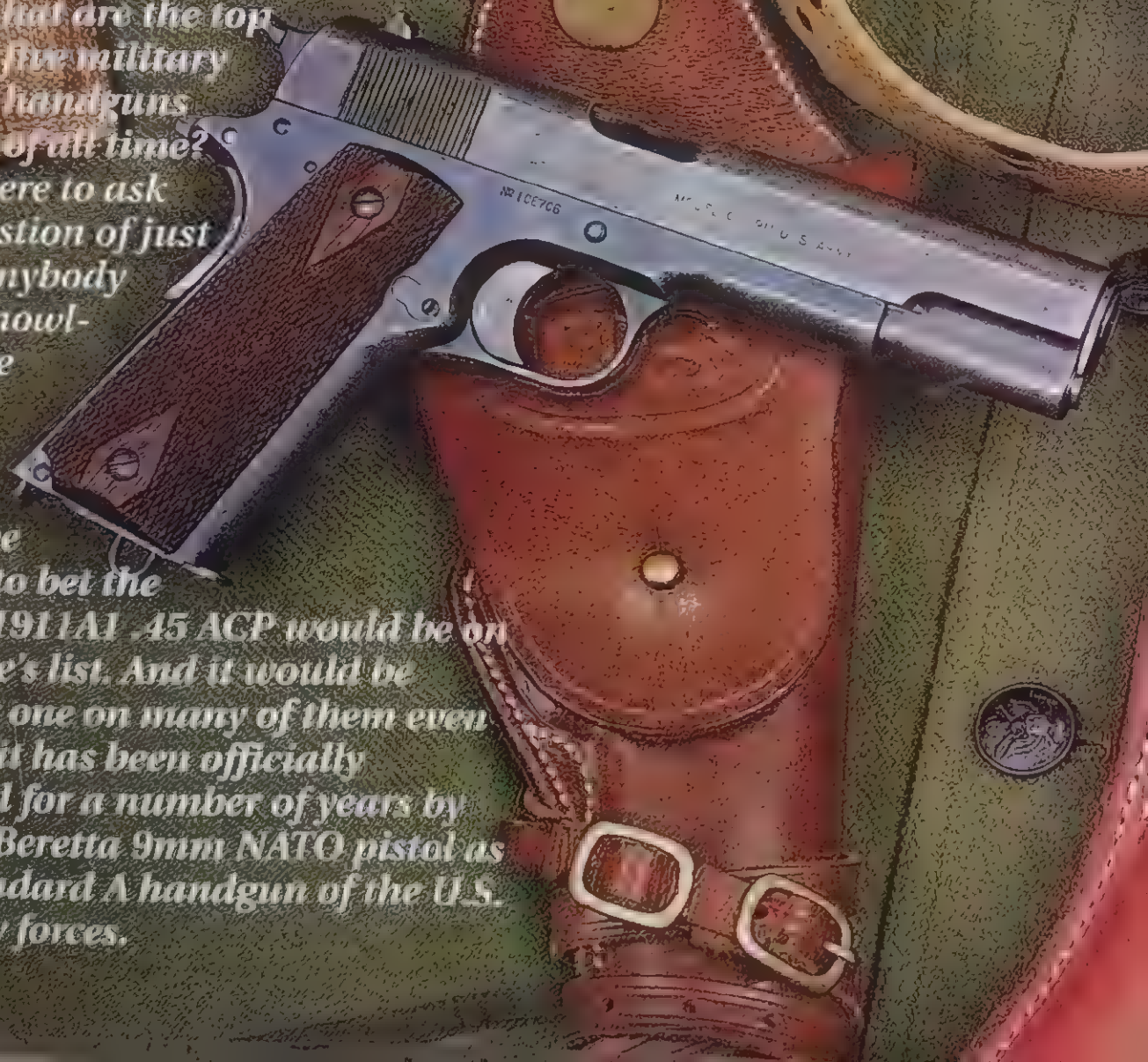
Considered by many to be the greatest combat handgun of all time, the classic 1911/1911A1 is still the choice of military personnel and civilian shooters.

By Charles W. Karwan

What are the top five military handguns of all time?

If you were to ask this question of just about anybody who's knowledgeable about handguns I would be

willing to bet the M1911/1911A1 .45 ACP would be on everyone's list. And it would be number one on many of them even though it has been officially replaced for a number of years by the M9 Beretta 9mm NATO pistol as the Standard A handgun of the U.S. military forces.



Model

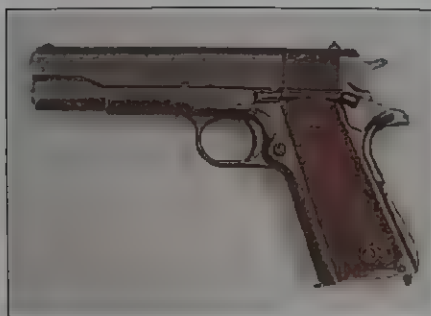
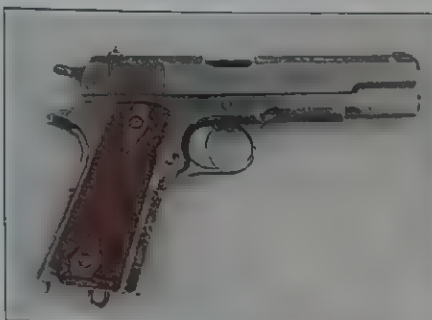


50 CARTRIDGES
CALIBER .45
BALL M1911
LOT WCC 6784
OLIN MATHIESON CHEMICAL CORPORATION

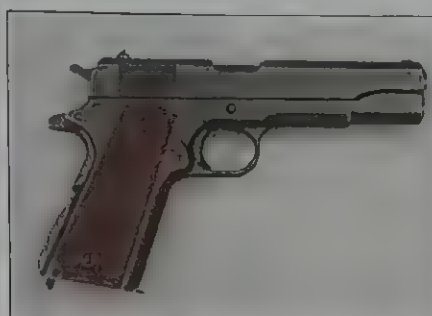
1911/1911A1 Government Model



Developed by John M. Browning and first manufactured by Colt in 1911, the original 1911 featured a longer trigger than today's versions, as well as a flat mainspring housing.



Modifications made in the early 1920s include an arched mainspring housing and shorter trigger. The tang of the grip safety was also lengthened to eliminate hammer bite. This new version was designated the Model 1911A1.



There are many things that make the M1911A1 great as a military weapon. First is its chambering. When restricted to fully jacketed bullets as the military is by international treaties and conventions, in general the bigger the hole the bullet makes, the faster the person shot will be incapacitated. Also, the .45 ACP is available in a variety of special loads, some of which are highly classified, that can outperform anything ever launched out of a 9mm with regard to lethality, fast incapacitation, penetration and versatility.

Another thing that makes the M1911A1 great is that it can be totally disassembled down to its smallest part without any tools. Indeed, several of the gun's parts are actually used as tools like a screwdriver or pin punch to accomplish total disassembly. This allows the gun to be maintained under the worst conditions and serviced at the lowest levels with nothing more than a few spare parts. This has also allowed

an incredible number of aftermarket accessories to be easily fitted to the old gun.

It is also robust and reliable to an incredible degree. It is not uncommon for examples to go 50,000 rounds without any significant problems. In adverse conditions like sand, mud or extreme cold it is far more likely to work than almost any other handgun.

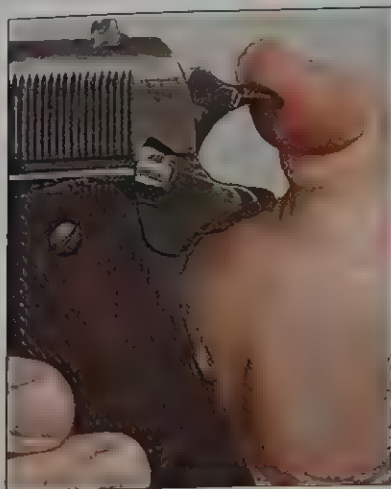
In this day of large-capacity double-action handguns it is not uncommon to find people whose hands are too small to reach the trigger on many of them, such as the M9 Beretta 9mm. I have never seen a military person of either sex who had any problem reaching the trigger on an M1911A1. It is also a relatively flat handgun that stows well and can be carried concealed with relative ease.

I am not one of those guys who believes that old saw of Jeff Cooper's: "Double-action triggers are an interesting solution to a nonexistent problem." Actually, they are an excellent solution to

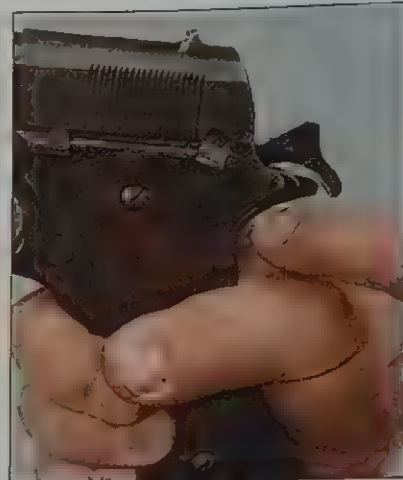
several meaningful problems. However, with proper training a good single-action auto like the M1911A1 is completely competitive as a fighting handgun.

Naturally, the history of the 1911A1 goes back to its daddy, the M1911. This John Browning-designed pistol was developed by Colt specifically to meet the specifications of a special ordnance board involved in pistol selection. Actually, this board deserves a great deal of the credit for the excellence of the pistol. Colt submitted a good gun in this pistol competition but not near as good as the M1911 that eventually turned out. It was the board that requested that the pistol be redesigned so that it could be detail-stripped without tools. Similarly, it requested that the Colt be modified to have a magazine release like that of the "Luger." It was done, and now the 1911 magazine release is looked at as the best in the world, and peculiarly American. The bottom line is that much of the excellence of the 1911 was the result of testers offering the manufacturer good feedback on how the gun could be improved. The eventual result was without peer for decades after its introduction.

The M1911 saw considerable action in the trenches of WWI. After the war, feedback was sought from the users to see how the pistol could be improved. What a refreshing idea! This communication and the few minor modifications made to the M1911 resulted in the M1911A1. The differences between the two pistols are not earth-shattering. The trigger was shortened so that people with short trigger fingers or small hands could handle the gun more naturally. Likewise, cutouts were added to the pistol's frame just behind the trigger to better accommodate short fingers. The hammer spur was shortened and



The 1911 had three safeties—a hammer half-cock, a frame-mounted catch and a grip safety.



the grip safety tang lengthened so that the web of the shooter's hand would not be bitten by the pistol's hammer spur. People with a webby hand like myself are guaranteed to bleed when attempting to shoot an M1911, and that is not good for accuracy.

Since many people found that the M1911 tended to point low for them, the mainspring housing was modified to have an arch in it that tends to raise the muzzle in the shooter's hand. Finally, the pistol's sights were made with a thicker front sight and a wider rear notch for a better sight picture.

Best of all, all the modifications, except the frame cutout by the trigger, were done just by part replacement. Thus a person could update or customize his pistol to suit his own hand and preferences. For example, during my nine years on active duty I had an M1911A1 of my own that I would often carry rather than sign one out from the arms room. I installed a flat mainspring housing and a long trigger in the gun because that better suits my hand. Such parts switching wasn't encouraged, but it was commonly done.

During the Vietnam era the last modification to the M1911A1 was made, though it was in no way universal. During that period the Army procured replacement barrels that were chrome-lined. These barrels also seemed to be made to particu-

larly tight tolerances. Installation of one of the new barrels invariably caused the gun to shoot better, and there was the added advantage of the chrome lining virtually eliminating barrel wear and corrosion. Needless to say, I procured one of these chrome-lined barrels for my M1911A1. I did the same in Vietnam when I eventually was able to procure a serviceable M1911A1.

Production of the M1911A1 between the wars was quite small and virtually all by Colt. These guns are gorgeously finished in a bright blue, with all milled-steel parts and nice checkering on the mainspring housing, hammer spur, slide release, recoil-spring plug and trigger face. During WWII the finish was dull Parkerizing, and all the above-named checkered parts eventually had simple striations instead. Also, the trigger became a stamping, and the hammer went from a wide type to a narrow, flat-sided type. None of these changes affect the serviceability of the gun, just made it easier to manufacture and a bit less pleasing aesthetically.

As WWII began to loom on the horizon, a production-research contract was given to the Singer company of sewing-machine fame. Singer tooled up and produced some 500 guns in fulfilling the contract. This small production makes them rare and valuable collectibles today.

When WWII broke out, contracts were given to Colt, Remington Rand (yes, typewriters), Ithaca and Union Switch and Signal. It is believed that the tooling built by Singer was supplied to one of these contractors. When the dust settled at the end of the war, Remington Rand had produced the most, at about 800,000. Colt was next, with about 650,000. Ithaca was third, with about 380,000. Finally, Union Switch and Signal produced only about 50,000, though it appears to have produced many more slides, which were often used as replacements on guns of other manufacture. The WWII production was sufficient to keep the U.S. government in M1911A1 pistols until the gun was declared obsolete. No new purchases were made after the WWII contracts were completed.

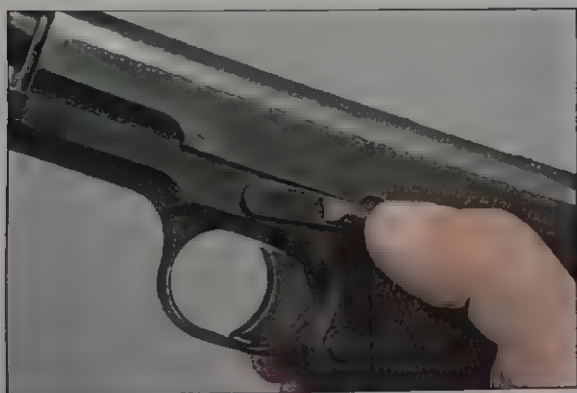
One of the problems for collectors is trying to identify who actually produced a given example of the M1911A1. This is caused by the fact that the parts are totally interchangeable, and during the life of many examples their slides were often switched or replaced. Since the slide is the only part actually marked with the manufacturer's name, you can see the problem.

One way to deal with this is to use one of the several serial-number tables available. The problem is that they are all different

1911/1911A1 Government Model



Early on, the Government Model was a favorite with the cavalry and was used to good effect during the Mexican Intervention of 1916.



The slide stop was sited on the left side of the frame where it could easily be manipulated with the thumb of the right hand.

depending on the source. One comes from Colt, another from the U.S.-government records; another is based on info from the individual contractors. They are all different, and I am convinced that they are all wrong. I have been able to establish without a doubt that there are substantial

overlaps in serial numbers, where more than one manufacturer supposedly made guns of the same number. All is not lost, however. The guns themselves can tell you in most cases which company made the pistol's frame. First, if you encounter an M1911A1, identified by the finger cutouts on the frame and/or the M1911A1 marking on the frame, and it has a slide made by Remington UMC, Springfield or Savage, you know the slide is not original to the gun since the first two manufacturers only made M1911 pistols during WWI, and the latter only made M1911 slides.

The slide is also not original if it

has a drawing number on the side, usually 7790314. These are replacement slides made long after WWII by Colt and SanColMar. Likewise if the slide is marked Drake, for this is the company that built National Match slides for the government.

Looking at the pistol's frame, there are a few rules that help identify its manufacturer. They are: (1) The presence of a VP proofmark in a triangle at the left front of the triggerguard, a GHD inspector marking or an M1911A1 marking without any spaces between the figures indicates an M1911A1 manufactured by Colt. (2) A serial number preceded by an "S" indicates an M1911A1 manufactured by Singer. (3) A serial number preceded by a "NO" instead of "No" indicates manufacture by Remington Rand. (4) An RCD inspector mark or double spacing between the M and 1911A1 indicates manufacture by Union Switch and Signal. (5) A geometric-shaped proofmark like a triangle, an arrowhead or such on the front left of the triggerguard indicates an M1911A1 made by Ithaca. (6) An "X" prefix to the serial number indicates a gun that has been reserial numbered by ordnance, and the maker is neither identifiable or relevant.

These rules will not allow you to identify every single frame you encounter, but they will suffice for 99 percent of them.

When M1911A1 pistols were rebuilt in a military facility, they were reassembled without regard to the manufacturer of the frame, slide or other parts. Such rebuilds will normally be stamped with a code indicating the facility that did the work, such as SA for Springfield Armory, RIA for Rock Island Armory, RA for Raritan Arsenal, AA for Augusta Arsenal, etc. If you have such a gun and its finish matches all parts, I suggest you leave it alone and not try to

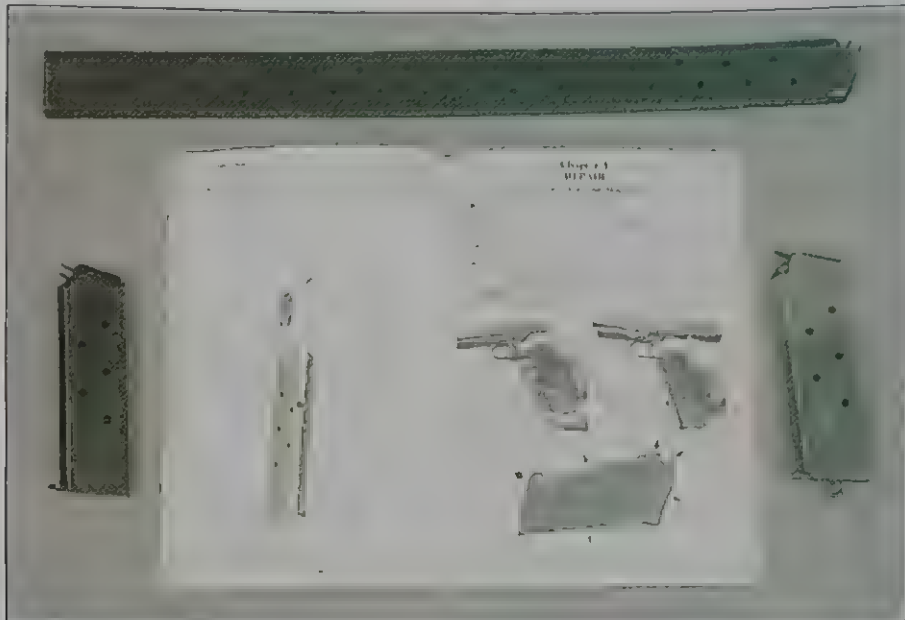


The rear sight on the 1911 was a simple dovetail notch that was drift adjustable for windage.

get the right manufacturer's slide on the frame. These arsenal mismatches are "original" as they are. The major exception to this is if the slide or frame is a rare Singer-manufactured one it would probably be worth restoring.

Fieldstripping and reassembly of the M1911A1 for cleaning is fairly straightforward. Starting with an unloaded pistol with its magazine removed, push in the recoil-spring plug at the muzzle, and rotate the barrel bushing clockwise as viewed from the front. Let the recoil-spring plug forward, taking the spring tension off the recoil spring. Now retract the slide. This is easier if the hammer is cocked first, until the small notch in the bottom of the slide lines up with the rear end of the slide release. The slide release can now be pushed out right to left. When it is removed, the slide assembly can be removed off the frame to the front.

The recoil spring and plug are then separated from the recoil-spring guide and taken out to the



Early 1911 magazines were two-toned and had lanyard loops (above right). Later mags were all-blue and eliminated the loop (above left). There was even a 25-round magazine apparently designed for aerial use during WWI (top). It was only moderately successful.



During World War I, Colt manufactured 1911s for the British that chambered their semi-rimmed .455 auto round.

front. The barrel bushing should be rotated all the way counter-clockwise and then taken out to the front. Now the barrel can be taken out the same way. That's it.

Reassembly is a bit more difficult. Insert the barrel into the slide from the front. Insert the barrel bushing from the front, and rotate it clockwise as viewed from the front. Now put the recoil spring in from the front and over the recoil-spring guide, placing the guide against the barrel lug with the link in the vertical posi-

tion. Slide the slide onto the frame, and look through the slide-release hole for the barrel-link hold; try to line it up with the frame hold. Sometimes a straightened-out paper clip or such is handy to get the link hole lined up. When it is lined up, put in the slide stop far enough that it goes through the link hole. Now gently retract the slide until the small notch in the slide lines up with the rear of the slide-release lever. Press in the slide-release lever all the way until it snaps in.

1911/1911A1 Government Model

Sometimes the plunger needs to be pushed slightly out of the way with a thumbnail to allow the slide release to get by, but usually, it will get out of the way with a slight upward and inward motion of the slide-release lever. Now push the slide all the way forward, and engage the safety. Turn the pistol so the muzzle is up, put the recoil-spring plug on the recoil spring, and push it down until the barrel bushing can be rotated over it. The pistol is assembled. Conduct a functioning check to

make sure it was done properly by cycling the slide and dry-firing the trigger.

Besides all the contractors mentioned earlier, the M1911 and M1911A1 have been made overseas by several licensed manufacturers. These include Norway, Argentina and Brazil, all of which made them for their own armed forces. Significant quantities of the Argentine model have been imported into the U.S., and they are quite well made and an excellent dollar value.

The venerable old M1911A1 is truly one of the great military handguns of all time. If I were restricted to one handgun, this one would probably be my first choice because of its versatility, basic excellence and the wide availability of parts and accessories. It has been my trusted companion during a number of hair-raising adventures and a couple of close encounters with people who wished me ill will. Since I am still here, it did its job well for me and would do the same for you. ©



The Winchester Russian Model 1895

Ordered as an emergency arm in World War I,
this lever gun is still a good shooter.

By Garry James & Philip Schreier

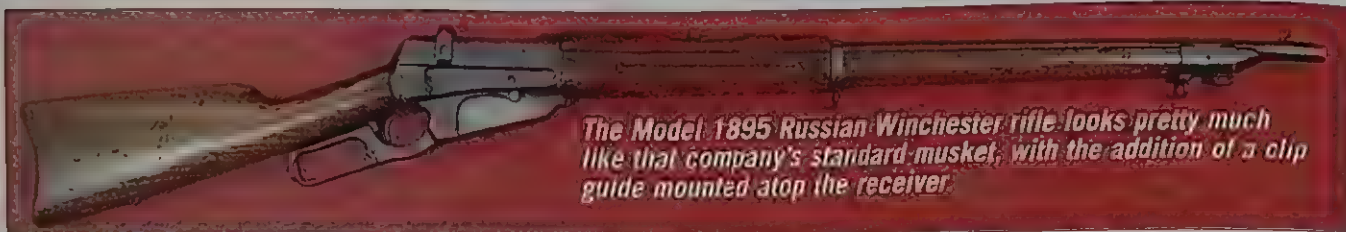
In the late summer of 1914, Paris was doomed, or so it seemed. The Imperial German army was within sight of the eternal city, and only a miracle could save her from the same humiliation she had endured at the hands of conquering Germans in 1871. And then the "Miracle of the Marne" occurred. One and a half million Russians attacked Germany at Tannenberg in the east, drawing away valuable resources and men from the German offensive. Paris was saved. Stalemate settled in on the Western front. Almost 300,000 Russians were casualties.

The Great War would not be over anytime soon.

Nearly half of the Russian infantry that attacked at Tannenberg went into battle completely unarmed. Like the Chinese who overran the Chosin Reservoir in Korea some 35 years later, most of the second and third waves of Russian infantry advanced using the firearms dropped by their fallen comrades. Russia was woefully unprepared to supply an army in the field



The Winchester Russian Model 1895



with proper equipment and arms. The Russian Minister of War, Alexei Polivanov, estimated that in 1915 he had nearly 1 million unarmed soldiers. "Rifles," he wrote, "were more precious than gold."

Immediately, contracts were executed with foreign arms manufacturers for rifles and munitions. Remington Arms and Westinghouse were given orders for 1 million copies of the standard Russian service rifle, the Model 1891 Mosin-Nagant. The Winchester Repeating Arms Company of New Haven, Connecticut, received a contract to supply the Czar's army with 300,000 rifles based on the John Browning-designed Winchester M-1895 lever action. Known as the Winchester Model 95 "Russian Musket," these arms comprised nearly 75 percent of all the Model 1895s manufactured between 1896 (the year of introduction) and 1931, when production ceased.

The Winchester Model 1895 Lever Action (note the distinction—Winchester also introduced a straight-pull, bolt-action rifle in 1895 as well) was John Browning's response to the development of high-powered smokeless rifle cartridges. Ballistic developments that

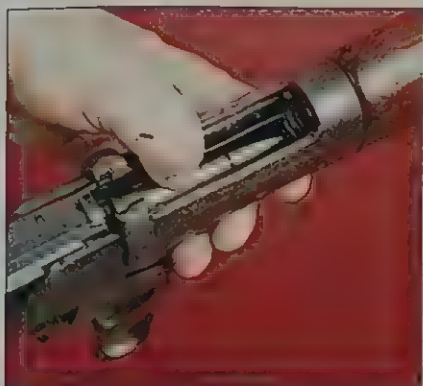
followed the introduction of smokeless powder in the late 1880s brought with them changes in bullet design. With small-caliber, high-velocity cartridges, bullet aerodynamics became a focus of attention. The introduction of cartridges with pointed spitzer bullets could in theory render most lever actions of the day obsolete and dangerous to carry. All lever guns of the period were fed from a tubular magazine. The tendency for the pointed nose of one round to pierce the primer of another round and discharge was very real if the gun was dropped. The genius of Browning's design was that his lever-action repeating rifle was fed from an internal box magazine, giving the shooter an advantage in speed and retention of sight-picture that his bolt-action competitor did not have.

Originally offered in .30 U.S. (.30-40 Krag), .38-72 WCF and .40-72 WCF, the Winchester 1895 was eventually chambered in .30-03, .30-06, .303, .35 WCF and .405 WCF, a favorite chambering of President Theodore Roosevelt. Roosevelt took 95s on his African Safari of 1910 and his trip down the Brazilian River of Doubt (now Rio Roosevelt) in 1913. In .405 caliber, Roosevelt called his

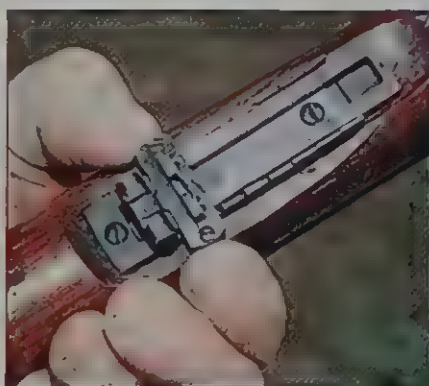
95 "big medicine for lions."

The Russian Model 1895, which was adopted in 1915, had its design roots in a rifle that had been made some 15 years before and used in the Philippine Campaign. Faced with a similar shortage of rifles when the American war with Spain broke out in April of 1898, the American Secretary of War, Russell Alger, ordered 10,000 Winchester Model 1895 lever-action muskets. The first delivery took place while Spanish diplomats were negotiating an end to the three-month war that left the United States with its first overseas possessions.

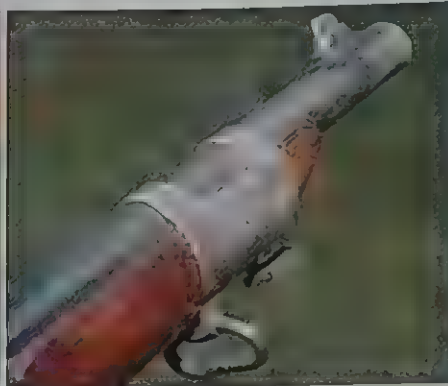
The musket that Winchester produced for the U.S. in 1898 and for the Russians in 1915 was a full-stocked rifle with a 28-inch barrel and a Winchester blade bayonet. In September of 1899, 100 of the U.S. Winchester 1895 muskets were issued to the 33rd U.S. Volunteer Infantry for field trials and evaluation in the Philippine Islands, an active theater of combat until 1903. On Christmas day 1900, Major General Arthur MacArthur, commanding the U.S. Army in the Philippines (and the father of the future General of the Army Douglas MacArthur), cabled the Adjutant General in Washington that the standard service Krag rifle was "generally considered superior and much preferred" to the 1895 Winchester. He cited difficulty with loading as one of the prime reasons the rifle did not pass muster. The Chief of Ordnance in 1901 wrote, "These arms are not suited for the United States service." In 1906 the Army commercially disposed of all 10,000, with most ending up in the service of military units in the Caribbean and Central America.



As we were not able to locate a proper Mosin-Nagant stripper clip, rounds had to be pressed into the box magazine one at a time.



Sights on the Winchester Russian Model 95 involve a military-style ladder rear graduated to 3,200 yards and a blade front. A lug for a blade bayonet is situated on the bottom of the front barrelband.



Having been damned with less than even faint praise, it would seem that the curtain had been drawn on any future military sales of a lever-action Winchester. Yet when procurement agents for the Russian Defense Ministry began searching the globe for rifles in 1915 (a scene reminiscent of Caleb Huse, purchasing agent for the Confederacy in 1861), Winchester quickly offered the 1895 musket as a substitute standard to the M1891 Mosin-Nagant. The Russian 95 was chambered in the standard Russian service caliber of 7.62mm. (Although by 1916, standard anything were considered a great rarity among Russian troops. One regiment had no less than 10 different rifle calibers represented within its ranks.)

The 7.62x54R round, which was originally designated for the Mosin-Nagant rifle, had a rimmed, tapered case. The original 210-grain round-nose bullet was found to be lacking in accuracy and puissance. Fortunately, the development by the Germans of the spitzer bullet gave the round a whole new lease on life, and in 1909 an improved "L" round was adopted. With a 150-grain bullet and adjusted powder charge, the ballistics of the cartridge were boosted to almost 2,900 fps, putting it in the .30-06 class.

The blade bayonet was visually identical to the U.S. 1895 model but

just different enough to prevent interchange ability. Stripper-clip guides were mounted on the receiver to allow rapid loading of the five cartridges that the internal box magazine held, thus correcting a flaw that General MacArthur had previously identified. Markings consist of the Russian Imperial acceptance cartouche on the receiver breech and "7.62," denoting the correct caliber for use in the rifle.

A total of 300,000 Model 95 muskets were ordered, produced and delivered to the Russians in 1915 and 1916. The Russians, bankrupt from war expenses, actually bartered with the French for additional rifles and ammunition, and in 1916, the Czar traded two battalions of infantry to the French for much-needed supplies.

The sights on the Russian Model 1895 involve a rear ladder graduated to 3,200 meters and a simple blade front. The safety is nothing more than a hammer half-cock, though the lever does have a hinged lower portion that locks it into position and prevents the action from being opened unless one's hand is actually in or about the loop.

For our evaluation we managed to locate an original Russian Model 95 in pretty good condition. It has been our experience that when these guns do turn up, they are generally well-used.

Ammo chosen was 147-grain LVE Russian sporting fodder.

Unfortunately, we were unable to locate a stripper clip, so we could not determine how well the loading guide worked and were forced to press the rounds into the mag one at a time through the top of the action—a task that was by no means onerous.

Initial offhand breaking-in shots proved the gun to be a good feeder and ejector, though recoil (even though the gun weighs some 9 pounds, 3 ounces) was pretty stout. The plain, curved steel buttplate did little to help in this area.

Still, we managed some pretty good sub-two-inch 100-yard rested groups using the original iron sights. The action was smooth, could be operated rapidly, and despite the stout recoil, target reacquisition was not bad. The trigger broke at just seven pounds, after a light 3/8-inch takeup.

The fate of the Russian Winchesters following the Great War is as confusing as the Russian revolution of 1917 was chaotic. Some rifles have been examined with the cartouche of Republican Spain, an indication that they were sold to aid in quelling the Civil War that erupted there in the late 1930s. Advertisements in firearm magazines from early 1962 indicate that a quantity of Russian 95s were imported by Interarms of Alexandria, Virginia, and sold for \$34.95—one third the price of a quality M1 Garand. ©

Long Lee-Enfield

This repeater was the first of a noble line of fine military rifles.

By Garry James

Like other military rifles of the period, the Long Lee-Enfield was, as its name implies, pretty lengthy. Carbine versions were also manufactured. Quality was superb, with fit and finish equal to many sporting arms of the day.



I'm a terrible romantic. Yes, I know the whole question of "Empire" has come up for criticism since the 1920s, but for one such as myself, steeped in the writings of such imperialists as Rider Haggard, Winston Churchill, A.E.W. Mason and Richard Harding Davis, it still holds considerable fascination. There is no question that many Victorian empire builders were colorful, larger-than-life characters who risked personal fortune—even their lives—to make sure that much of the globe remained under British influence.

No matter how engaging one's personality, there is a limit to what he can do without force of arms. England was particularly blessed in the latter part of the 19th century with a disciplined military armed with some of the finest arms available at the time. Topmost among them was the Long Lee-Enfield.

Like a number of rifles and pistols used by Britain in the mid to late-1800s, the Lee-Enfield had something of an American connection. James Paris Lee was a naturalized U.S. citizen whose parents had emigrated from Scotland to Canada in 1835. Though originally a watchmaker, like his father, Lee was fascinated by firearms and eventually moved to Wisconsin, where he took up gun design full time.

Though he didn't actually invent the box magazine, Lee at least perfected it, and he submitted a bolt-action repeater for evaluation by both the United States Army and Navy.

This "Remington-Lee" drew the attention of the British War Department, which tested a model chambered for drawn-brass .577-450 Gatling versions of the British service cartridge, fitted with Martini-Henry barrels.

The gun proved to be reliable and serviceable. Trials continued through the 1880s with modified Remington-Lees, as well as with more standard versions chambered for .45-70 and .43 Spanish.

Though the British had been considering adopting a .402 service round, they took

notice of some Swiss .303 smallbore experiments and eventually settled on that caliber. Lees were mated to seven-groove barrels designed by William E. Metford and chambered in .303 Swiss Rubin. It worked! In December of 1888, the Magazine Lee-Metford Rifle, Mark I, was officially accepted into British service. The .303 round eventually decided upon had a drawn-brass case and a 215-grain cupro-nickel-jacketed roundnose bullet backed by 71½ grains of black powder compressed into a pellet.

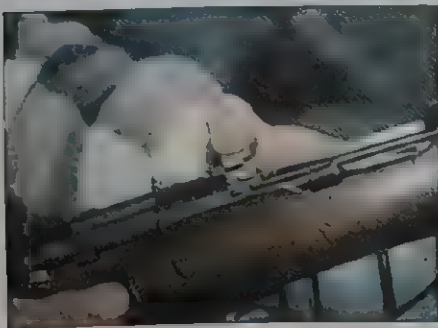
Her Majesty's first general-issue repeating service rifle was a good-looking, rugged arm. Featuring a bolt action and Metford rifling, it had an eight-shot sheetmetal box magazine that protruded in front of the triggerguard. While it could be removed, this was not standard practice, as it was actually linked to the gun and rounds were to be loaded into the rifle through the top of the action.

The bolt was not as strong as some Mauser designs but was perfectly adequate for the pressures developed by the .303 service round. The fact that it cocked on closing made it easy to operate rapidly. Locking was achieved by means of a lug and solid rib on the bolt. The former engaged a recess in the receiver; the latter was secured against a shoulder. The bolt head was a separate piece threaded onto the bolt body.

Though the gun was a repeater, like many other military rifles of the period, it was equipped with a cut-off that allowed the gun to be fired as a single-shot—the reasoning being that the rounds in the magazine should really just be kept in reserve.

As well as an elegant rear ladder sight graduated to 1,900 yards, the Lee-Metford was equipped with an interesting dial

Long Lee-Enfield



Removing the Lee's bolt is as simple as pulling the bolt to the rear, snapping the bolt-head stud free from its channel and withdrawing it from the receiver. It's both fast and positive.



sight mounted on the right side of the forestock. When employed properly, it enabled the soldier to fire for effect at ranges up to 3,500 yards.

The rifle's overall length was 49½ inches with a 30-inch barrel. The stock was full length and consisted of a separate fore-end and butt that were attached to an integral socket on the receiver. This socket was marked with a crown and "VR" (Victoria Regina) and

with the model of the gun and date and place of manufacture (Enfield, B.S.A.-Birmingham Small Arms, Sparkbrook or L.S.A.-London Small Arms).

In 1892 sights were regruated and the safety catch eliminated, among other things. A year later the magazine capacity was increased to 10, the bolt improved and other cosmetic changes made. In 1895 the safety catch was reinstated, though on the rear of the cocking piece.

Besides infantry rifles, Lee-Metford also manufactured carbines for mounted troops. While they maintained the same basic mechanics of the infantry rifle, the guns were shortened considerably for mounted use. In addition, the sight was altered and the bolt knob flattened.

The Lee-Metford received high praise from officers and men, and it was particularly effective in one of its last engagements at the battle of Omdurman in the Sudan Sept. 2, 1898, where, following a pitched battle, the opposing Khalifa's troops suffered 11,000 men killed and 16,000 wounded. The British lost 48 killed and 328 wounded.

As good as the Lee-Metford was, the smokeless-powder revolution had begun. The French were first to adopt it in their Model 1886 Lebel, and the British realized it was imperative that they keep pace with modern developments.

On Nov. 3, 1891, Britain adopted its first smokeless load, the Cartridge, S.A., Ball .303 Cordite, Mark I. The round used the drawn-brass black-powder case and 215-grain bullet and a charge of 31 grains (60 strands) of Cordite, a spaghetti-like propellant made from nitroglycerine, guncotton and mineral jelly. Cordite was immediately hailed as a great improvement over the old propellant. As well as being relatively smoke-free, it upped muzzle velocity from 1,850 to 1,970 fps. The only problem was, it burned much hotter than black powder and began causing considerable erosion in the Metford-rifled barrels.

Designers immediately went to work on the problem and quickly came up with a simple solution. They substituted the older barrels with ones rifled with five deep, angular grooves, which were not affected by the new propellant. Termed "Enfield" rifling after the Royal Ordnance Factory where the system was developed, the stage was set for one of the most important military arms ever developed: the Lee-Enfield. The first Lee-Enfield was approved Nov. 11, 1895, and early models were manufactured at Enfield, Sparkbrook, L.S.A. and B.S.A. Until production got up to speed, the Lee-Metfords still in service were generally retained, and for a time the rifles coexisted in the ranks.

From the outside, the Long Lee-Enfield was virtually indistinguishable from the late Metfords, even down to the sight graduations. It was with this gun, as well as its modification, the Mk I* (which eliminated the cleaning rod), that the British fought the Boers in 1898. Despite some troubles in the British command, the Lee-Enfield acquitted itself quite well against the Boers' Mausers.

Some sighting difficulties—along with the Enfield's inability to be charged rapidly with clips—



Long Lee-Enfields were fitted with 12-inch-bladed bayonets. These were basically the same as those used with the Metfords, but there were subtle variations. Scabbards were of leather.

did cause problems, however. At the Battle of Spion Kop this became all too evident. What happened was later described by the editors of *With the Flag to Pretoria*:

"A cyclone of death had smitten the summit. No words can describe the appalling uproar and confusion; all around the thunder of the guns and incessant roar of the rifles; on the summit clouds of dust and the yells and oaths of the combatants, groans of the wounded; the shrieks of the dying...the British soldier in these dreadful moments is rarely untrue to the call of duty. He was at a grave disadvantage, for the rifle with which he was armed was awkward to load lying down; the Boer weapon with its clip holding five cartridges could be charged easily in a second or two."

The .303 cartridge itself had undergone some changes, and in 1893 the Berdan primer was substituted for a Boxer style. As well, a cartridge loaded with a bullet with an exposed lead tip, designed at Dum Dum Arsenal in India, found favor because of its mushrooming capabilities—a feature later condemned by Britain's enemies as "inhumane."

Lessons of the Boer War were taken to heart by authorities, and plans were set in motion to design a rifle that could be charger loaded and would be of such length that it could be used by both infantry and cavalry. In 1902 the famed Short Magazine Lee-Enfield was approved. The day of the elegant Long-Lee was over.

This is not to say that Long-Lees entirely disappeared from the scene. They were seen in the colonies well into the 20th century and used for training and target competition in the homeland for a considerable period. Versions were even made with charger bars so that they could be clip-loaded.

My Long Lee-Enfield, however,



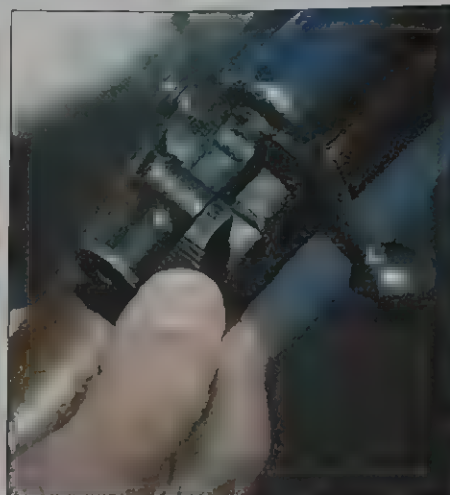
Dial sights graduated to 2,800 yards allowed men to fire for effect at long distances. These were seen on the early Mark III SMLEs as well but were eliminated during World War I, only to reappear briefly after the war on the semi-experimental Mark V SMLE.



The Lee's magazine could be removed from the gun, but this was not common practice as cartridges were loaded singly through the top of the action. In any event, it was linked to the rifle.

was just a common garden-variety Mk I issue rifle, manufactured by L.S.A. in 1896. It retains all standard appurtenances, including the long-range dial sight, ramrod channel beneath the barrel (the ramrod is missing, as most were removed when the Mk I* emerged), bolt cover, cocking-piece-mounted safety and unit markings on the buttplate tang. Also like other early Lees, the box magazine is attached to the rifle by means of a steel link.

For testing I used Winchester 174-grain FMJ .303 ammo. I'm not going to lie to you and say this is the first time I've ever shot a Long-Lee. In fact, this is one of my very favorite bolt actions, so the evaluation held no mystery. At



The Long Lee-Enfield's action is pretty much the same as that used on the earlier Lee-Metford. The safety mounted on the cocking piece was very easy to use. Many military arms of the period incorporated sheetmetal bolt covers.



In keeping with military practice of the period, the Long-Lee was fitted with a magazine cut-off and could be fired as a single-shot. Ammo kept in the magazine was considered as reserve.

100 yards, rested groups ran a monotonous 1½ to two inches. As the gun hefts some nine pounds, four ounces; recoil was anything but punishing; and I was able to work the action and fire 10 rounds in about as many seconds.

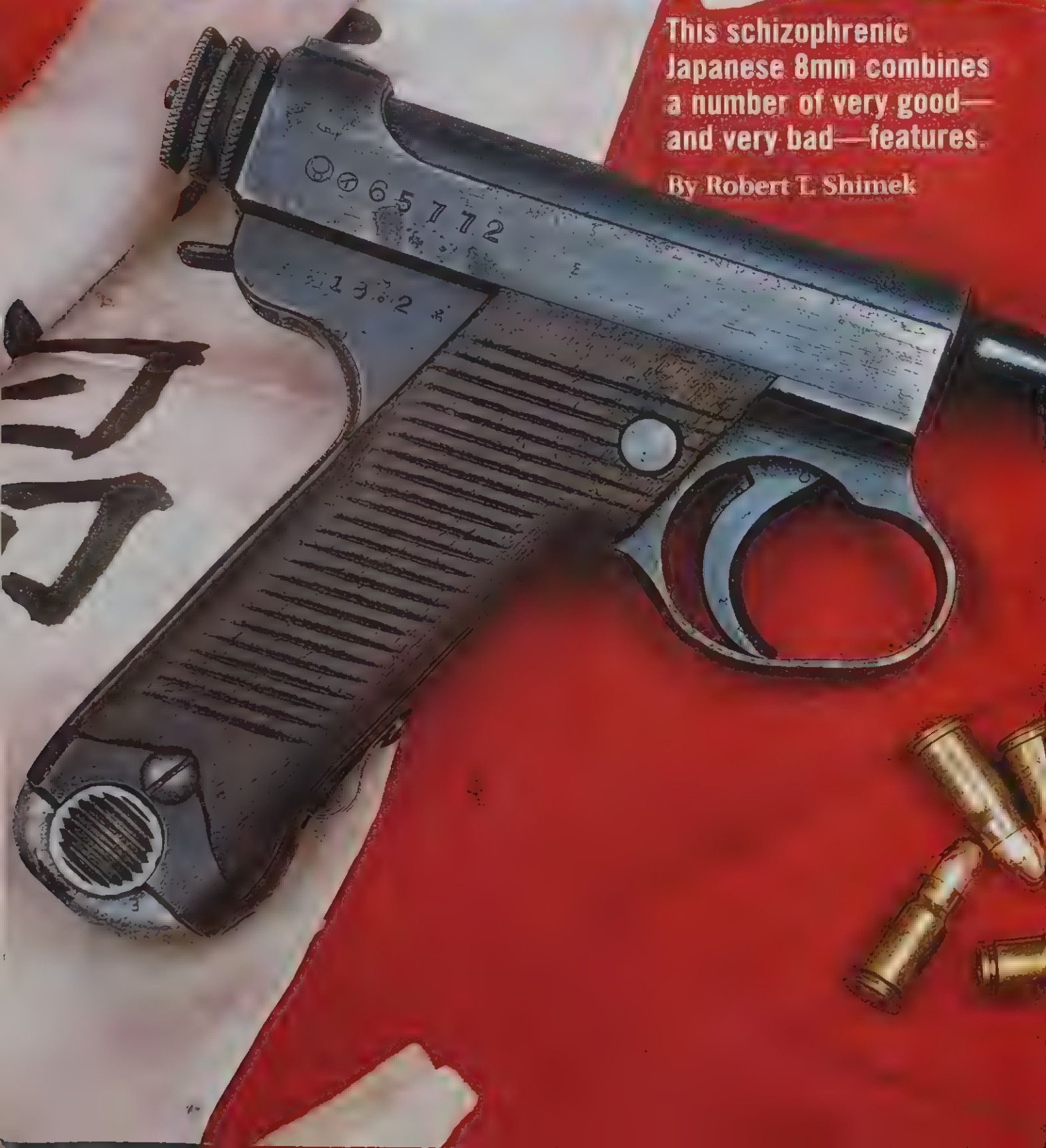
The trigger pull was a crisp 7½ pounds—more than adequate for military-grade target work. Other shooters found the gun equally agreeable, and it became one of the favored fun guns of the afternoon.

The Long Lee was a superb weapon—certainly one of the best of its time. It provided the basis for an even better arm, the SMLE, and in that gun, which is still being used in many parts of the world, really rests the lasting legacy of the Long Lee-Enfield. ©

Nambu Type

This schizophrenic Japanese 8mm combines a number of very good—and very bad—features.

By Robert L. Shimek





Of all the world's handguns, the Nambu just has to be the ultimate creature of contrasts. Where else but in the Type 14 can one find, at once, so many outstanding and so many ill-conceived features?

Take mechanical accuracy: If one crafts one's ammunition so as to accommodate the highly variable bore sizes, T14 groupability is second to none, due both to the Nambu's rigid-barrel design and to its exacting standards of construction. Take the trigger, too: In every Type 14 I've tried—and that's a number—the trigger is a monument to human engineering, breaking at two pounds or so, yet never doubling or going out of whack. No other service pistol on Earth has an ignition system this good, save by accident or tuning. Note the Japanese Nambu T14's exemplary sights: True, they're weirdly configured by American standards—only the Nambu would sport a trapezoidal rear notch that's wider at the base than at the top—but they're also big and well defined, and they admit lots of daylight on both sides of the front post when aligned. Some modern autos still don't have sights that serve as well. And finally, witness the Nambu's superb practical accuracy: I'd wager a small sum to the effect that a soldier totally unschooled in pistolcraft could hit better with the very pointable, light-triggered, gentle-kicking Type 14 than with most any other military handgun.

But as for engineering "worsts," these exist in quantity also. The safety lever requires a full 180-degree rotation to engage or disengage. The Type 14 lever is breakage-prone, too. The reloading sequence is a time-consuming nuisance, thanks to a magazine that, on most Nambu models, must be dragged forcibly from the gun with one hand while a low-profile button is operated with the other. Furthermore, recharging a locked-open Type 14, of whatever model, is a process requiring some strength since a pistol that has been fired dry jams its breechblock open on the magazine's follower, thus increasing considerably the force needed to extract the empty mag.

Finally, the 8mm cartridge around which the Nambu was designed is no prize. It is not history's worst combat-pistol effort, but it comes close enough. Ballistics are anemic (102-grain, .320-inch diameter FMJ at circa 1,000 fps), and the bottleneck is little more than a space-costly affectation, even with turn-of-the-century Japanese propellants. We should note here, too, that, in terms of size/power ratio, the Nambu is a wasteful handgun. It's more than nine inches long and six inches tall, it weighs two pounds empty, yet it hits like a pocket pistol.

How did so schizophrenic a sidearm as the Type 14 come to be designed and to serve as Japan's prime service handgun throughout the era of the "Greater East Asia Co-Prosperity Sphere"? To formulate an

Nambu Type 14



Dubbed the "Japanese Luger," the Type 14 Nambu, though looking something like the German auto, did not bear any internal features of the Luger.



Nambus are stamped with the symbol for the place of manufacture as well as the date. This Nagoya-produced Nambu's marking of "18.2" shows it was manufactured in February of 1943 in the Showa reign.



A long sight radius and ample front-sight blade combined with a triangular-cut rear notch make for a rapidly aimed pistol.

answer to this question, we must recognize that as of the early 1920s, when the Type 14 idea was born, Japan already possessed what she regarded as a totally workable auto pistol, the 1906 "Papa" Nambu, which was preferred issue in the elite Special Naval Landing Force (Japanese marines). Papa was possessed of a single catastrophic-class fault. However, it was totally unsuitable to the sort of mass production a Japan with dreams of empire would require. And so the task faced by General Nambu's Tokyo Arsenal design team circa 1924 was to create an easy-to-build pistol that was based upon Papa. Papa's few defects were to be remedied in the process, if possible.

What emerged from Tokyo Arsenal's drawing board as of 1925 was an interesting amalgam of traditional Japanese auto pistol and ease-of-manufacture features. Retained from Papa—and from the 1902-vintage Grandpa Nambu, for that matter—were the short-recoil, locked-breech action with this separate locking block that descended into a tunnel cut in the frame, the 8mm cartridge and the striker-style ignition system.

Retained also were the Papa's slender barrel, sharply pitched grip and excellent trigger. Dissimilarities, however, were much more numerous. The new gun featured a pair of side-by-side recoil springs in place of Papa's

single offset spring, which had complicated machining; the frame was totally reengineered with an eye toward simplification; a thumb safety and a magazine safety were incorporated; a whole new bolt, bolt lock, disconnecter and striker were featured; a fixed rear sight replaced Papa's tangent-style rear; and even grip panels were altered with an eye toward manufacture en-masse. A whole new pistol had thus been created, one in which no parts interchanged with earlier Nambu types.

The new design worked fully as well as its predecessors, and so, as of late 1925, it was taken into army service as the "14 Year Type," signifying the 14th year of Taisho reign. Navy acceptance followed. Initial production was undertaken at Nagoya Arsenal in late 1926, but within two years, manufacture began at Tokyo (later Kokura) Arsenal also. The Tokyo/Kokura guns would eventually become famous as the most beautifully fitted and finished of all T14s. Production spread still farther as Japan became truly powerful, with Nagoya Nambu at Kokubunji and Nagoya Arsenal at Torimatsu beginning Type 14 manufacture in 1933 and 1941.

Needless to say, so widely made a pistol evidenced no catastrophic defects under service conditions in China and elsewhere. But a number of minor glitches came to light. Foremost among these was the weak striker system: The hollow, lightweight striker occasionally failed to hit primers hard enough, and, in addition, it was breakage-prone. A second difficulty concerned the smallish triggerguard, which would not admit a gloved finger. Problems were experienced with lost magazines and with the simple reality that the T14, while easier to build than Papa, still required too many man-hours to produce.



Nambus fire a unique bottlenecked 8mm round with a 102-grain bullet that moved out at 1,000 feet per second. Modern ammo is available from The Old Western Scrounger.

Efforts to correct the above led to considerable variation in production Type 14 pistols. Strikers and striker guides of various sizes and configurations were tried. (Beware of this when replacing these parts.) An enlarged "Manchurian" triggerguard was introduced as of 1939. A magazine-retaining friction device was added to the forestrap in 1940. And all manner of production expeditions—simplified cocking knobs, hot blue finishes, unserrated grips—were incorporated as the war years dragged on. By mid-1942 or so, the commercial-standards effect, long characteristic of Type 14s, had pretty well disappeared from Nambu production.

It was not until the final months of war that truly mammoth concessions were made to need for pistol manufacture en-masse. Non-essential parts—sometimes relatively important ones like the magazine safety block—came to be omitted entirely; fit sank to frighteningly low standards; bare metal finishes became the norm; even metallurgy became questionable, according to some sources. It was these last-ditch guns, made in July and August of 1945, that would sour the Type 14's reputation among U.S. civilian shooters in the years following the

Second World War.

Our trial gun constituted an interesting lesson in just how carefully Japan crafted her service pistols during the years before military necessity convinced her to do otherwise. The trial gun was nothing if not a beautifully made arm. All parts were polished forgings; major components were serialized; articulations were faultless; finish—rust blue exterior, polished in-the-white interior, strawed small parts, nicked magazine, fire-blued grip screws—was such as to put to shame most any modern commercial pistol. Looking at the test piece, it was not at all hard to understand how barely 90,000 T14s had been completed in the dozen or so years elapsing between the start of Nambu production and completion of the Type 14 specimen in my hand.

Currently, 8mm Nambu ammo can be obtained from The Old Western Scrounger, Dept SE, 50 Industrial Parkway, Carson City, NV 89706, (775) 246-2091.

I can, fortunately, evaluate such even though I could not slap a proper hold on the test piece since I have had experience of other, properly functioning Type



Nambu magazines are securely held into their channels via a beefy locking mechanism. They must be manually pulled from the pistol using the large thumb pieces on the base.

14s. In general, Nambu controllability in repeat fire is very good class. Recoil recovery is a snap; the sight picture is recaptured easily; the trigger works with the shooter all the way. Only the muzzle lightness is a hassle. Other test-piece handling characteristics, both positives and negatives, were as described in our opening paragraphs.

The test piece grouped its bullets into a comfortable two inches whenever five shots were properly touched off from the 25-meter (27.3 yard) bench. Feeding was flawless, though a worn mag button spring necessitated holding the mag in the gun with the heel of my hand during firing, playing hob with attempts to analyze rapid-fire characteristics.

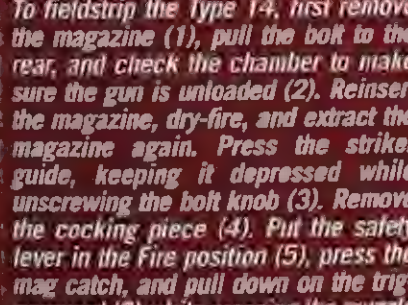
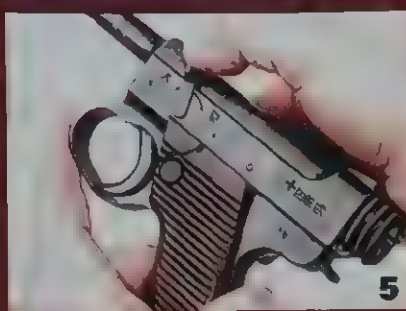
Type 14 disassembly for cleaning is not difficult and is accomplished as follows. First, extract the magazine; then draw back the bolt, and check to ensure that the chamber is empty. Now, with the muzzle pointed in a safe direc-

Nambu Type 14

tion, reinsert an empty magazine, and dry-fire the pistol. Extract the magazine once again. Next, press inward on the striker guide with a fingernail while simultaneously unscrewing the cocking knob. The striker guide and spring will tumble out of the bolt when this is completed. Now, with the safety in the Fire position, exert pressure on the muzzle, depress the mag-release button, and pull down hard on the triggerguard. The trigger assembly will come free in your hand, and barrel/barrel extension can be lifted out of the

bolt. Reassembly is the reverse, but two words of advice—one of caution, one of explanation—are in order: First, don't forget to replace the locking block during reassembly, for the Nambu can accidentally be put back together without it. And second, in reattaching the cocking knob, remember you don't want the striker guide rotating with the cocking knob as the latter is being screwed back on; depress the guide into its tunnel with the fingernail as your screw the knob back on, as you did during disassembly.

So, this is the Type 14—a schizophrenic little sidearm, composed of some very, very good and some very, very bad characteristics. I guess I could conclude here on the service-pistol reviewer's usual dour note to the effect that the virtues are irrelevant since the vices could get one killed. But I'm not going to do that since, first of all, the gun is hardly a candidate for service use today, and second, I'm convinced that the very shootable Nambu has been taking it on the chin for far too long. ©




To fieldstrip the Type 14, first remove the magazine (1), pull the bolt to the rear, and check the chamber to make sure the gun is unloaded (2). Reinsert the magazine, dry-fire, and extract the magazine again. Press the striker guide, keeping it depressed while unscrewing the bolt knob (3). Remove the cocking piece (4). Put the safety lever in the Fire position (5); press the mag catch, and pull down on the triggerguard (6) while pressing the muzzle on a hard surface. Lift the barrel group off the frame (7). Take the locking block out of the barrel group (8); pull the bolt out of the group (9). Remove the striker and spring from the bolt (10).

NO. 2 MK I Enfield Revolver

This Webley-style double-action revolver was a mainstay with British and Commonwealth forces during the Second World War.

By Garry James



C'mon now, admit it. There are certain guns that over the years you've probably given short shrift. I'll own up. I must confess that the various Italian "Bodeo" revolvers were never much to my taste, nor were many of the little 19th century nickel-plated horrors that have politely been dubbed "flyaparts," or worse.

NO. 2 MK I Enfield Revolver



The original No. 2 Enfield revolvers had hammer spurs and could be fired single and double action. The spurs were removed and the guns made DA-only supposedly at the behest of the Royal Tank Corps, who complained that the spur could catch on equipment when drawn in the tight quarters of an armored vehicle. As indicated by its markings, this gun was made in 1933 and issued to the Royal Air Force.

Perhaps one of the most wrong-headed aversions, however, has been to the No. 2 Mark I* Enfield "Commando" revolver. This double-action Webley-looking .38 with its bobbed hammer had never really taken my fancy. The caliber (I thought) was ineffectual, the finish was certainly not up to the standard of the superb prewar British revolvers, and the DA-only feature was of dubious value.

How wrong I was! A bit of delving into the No. 2's history and a recent go-round with a trio of the

little guns have changed my views quite drastically.

The Webley Mark VI .455-caliber revolver was one of the finest military sidearms ever devised, but despite glowing reports from the trenches during World War I, soon after Armistice, authorities decided that they would like a smaller revolver (the Mark VI weighed 37 ounces and measured 11 inches overall) in a lighter caliber that would still have the stopping power of the .455 round.

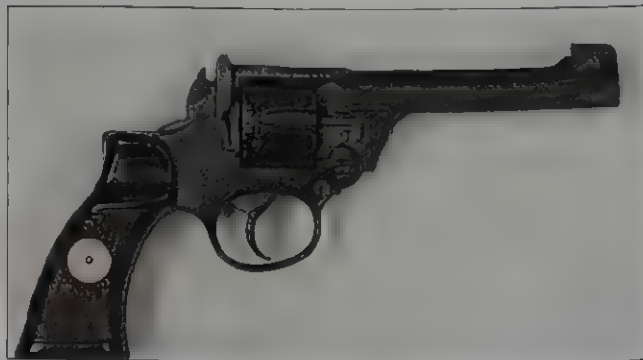
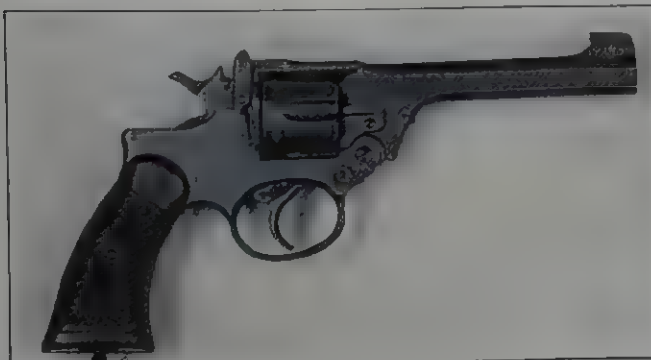
In the early 1920s, Webley & Scott submitted a .38-caliber

revolver looking very much like a scaled-down Mark VI—which, in fact, it was. This "Mark IV" was six-shot and could be fired either double or single action. Overall length was pared slightly to 10 inches, though the weight was reduced by a full 10 ounces.

The chosen round (I'll skip some of the more tedious developmental steps) came down to what was basically a .38 S&W cartridge loaded with a 200-grain lead roundnose bullet. Heretofore, the .38 S&W had been topped with a 146-grain projectile. Even though tests showed that the .38 bullet couldn't match the penetration of the .455, results were good enough that the ".380/200," as it was called, was adopted by the War Department in late 1928.

In the meantime, it had been decided that rather than let a contract to Webley, the gun (dubbed No. 2 Mark I) would be manufactured at the government's Enfield arsenal. This revolver was virtually identical to the Mark IV, inside and out. It was six-shot and could be fired double action (the pull was lighter than that of the Mark VI) or thumb cocked, as well.

The troops now had a well-made, beautifully engineered sidearm in a pretty good caliber. Perhaps the only drawback was that some soldiers felt the new .380 kicked every bit as hard as the older .455, owing to the No. 2's light weight. Grips, by the way,



No. 2s were issued with different types of grips including plain, checkered walnut, finger-groove walnut and Bakelite.



To eject spent cases, the gun is broken open by grasping the barrel, pushing forward on the stirrup latch and sharply lowering the butt.



The No. 2 Mk I* Enfield had a safety block to prevent accidental discharge. Later Mark I revolvers did away with this for economy's sake.**

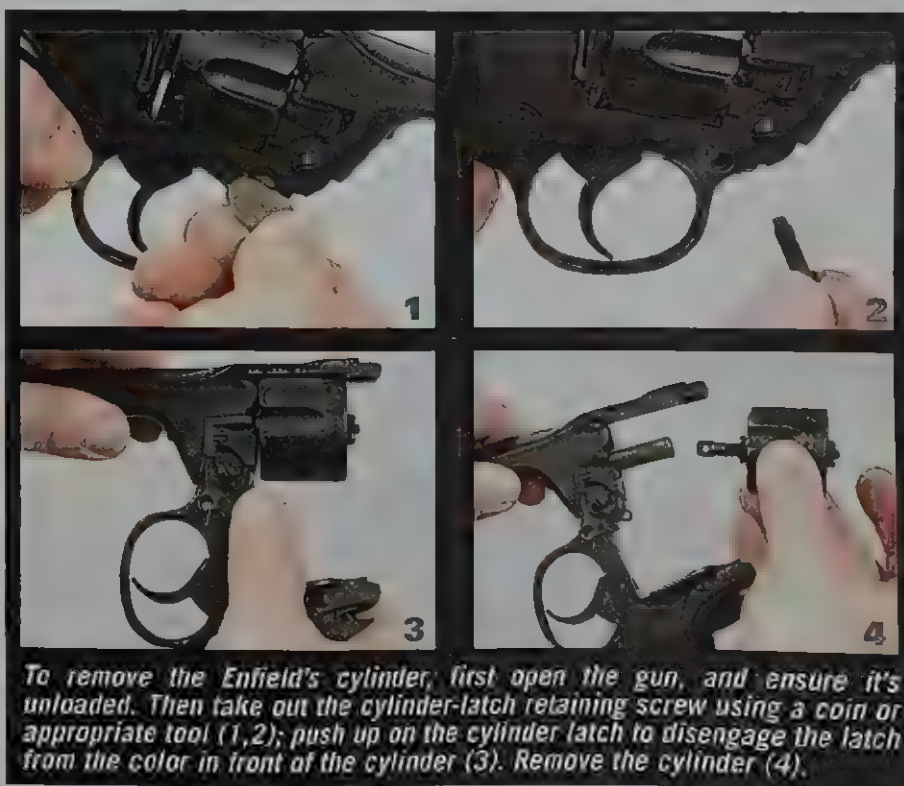
were originally checkered or striated English walnut.

Things were going too well. In the mid-'30s, Britain received complaints that under the provision of the Hague Convention, the 200-grain lead bullet was considered inhumane. Ordnance officials responded by producing a 178-grain cupro-nickel-jacketed bullet that gave similar accuracy to the 200-grainer but was later found to be lacking in stopping power.

The revolver, too, was undergoing its problems. The Royal Tank Corps claimed that the No. 2's hammer spur could catch on equipment and battle dress when drawn in the cramped quarters of an armored vehicle. Because of this and other considerations, it was decided that the No. 2 would be modified by bobbing the hammer spur and eliminating the single-action notch. The hammer spring was lightened and the grips changed to Bakelite with thumb grooves for either right- or left-

handed shooting. A large brass identification disc, similar to that on the Mark III Enfield rifle, was inletted into the right panel.

This new revolver was dubbed the No. 2 Mk I*. Older No. 2s were taken back to the factory and altered while all future revolvers



To remove the Enfield's cylinder, first open the gun, and ensure it's unloaded. Then take out the cylinder-latch retaining screw using a coin or appropriate tool (1,2); push up on the cylinder latch to disengage the latch from the color in front of the cylinder (3). Remove the cylinder (4).

NO. 2 MK I Enfield Revolver



When supplies of No. 2 Mk Is became tight, Webley was contracted to produce their similar Mark IV for service. The "WAR FINISH" markings was put there to indicate that the gun was not up to Webley's usual standards.



As well as Enfield, No. 2s were manufactured by Albion Motor Works in Britain.

would be made DA-only. These revolvers were later nicknamed "Commandos," though they were issued to everyone from the Royal Air Force to military police.

During World War II, Britain let out a manufacturing contract to Albion Motors, which produced many thousand No. 2s. As the war progressed, a further modification, the No. 2 Mk I**, was introduced. Basically, the same was its progenitor; it had the safety stop removed as an emergency manufacturing measure, making the gun liable to accidental discharge if dropped.

For the most part, these revolvers were apparently not highly regarded by the troops, though they were issued in large numbers. In fact, imported Smith & Wessons were far more popular.

single-action shooting, those spurless hammers were more than off-putting.

As the years wore on, the No. 2 rose steadily in price but never achieved the value of its more popular contemporaries. Prior to the most recent influx of Enfields a number of years ago, it was still possible to buy a minty specimen for about \$125. As collectors, we were overlooking one important fact: Loaded with a factory 135-grain lead S&W round (no Hague Convention to worry about here), the Enfield would make an excellent, super-reliable home-protection gun.

Our evaluation guns from my own collection included two standard DA-only No. 2 Mk Is, one by Enfield and the other by Albion, and an unconverted single-action



The popular .455 round (left), used in earlier Webley's was replaced in 1928 by a less powerful .380/200 round which was similar to the .38 S&W load (right).

Enfield "transitional" model.

As service ammo is currently unavailable, we fired the guns with current 145-grain Winchester .38 Smith & Wesson fodder.

After a thorough degreasing, the DA-only Enfield was loaded and a trial six-round string loosed at a metal target about 10 yards distant. While the pull was heavy (a measured 12 pounds), the bullets all either struck the target or at least in the general vicinity. The next six rounds were put on paper, from a rest, at 25 yards. The grouping was a fairly respectable 4½ inches, though it printed a full foot below the aiming point. This is to be expected, of course, in a gun originally designed for heavier bullets.

The single-action Enfield had a DA similar to that of the first gun, though the SA pull was crisp and clean. Our 25-yard, benchrested, thumb-cocked groups came in at just two inches—again, a foot low.

Granted, the .38 S&W doesn't have the stopping power of a .38 Special or 9mm Parabellum, but for close work, with a lead bullet, it can still be an effective defensive round. The gun, too, with its safety block and ultrareliability, wouldn't make a bad house gun. Just be sure to get plenty of practice in double-action shooting so that you're thoroughly conversant with the revolver's idiosyncrasies. ©

Model 1917 Colt New Service

This stopgap revolver turned out to be a reliable, if moderately used substitute standard sidearm during two World Wars.

By Garry James

By the time the United States entered World War I in 1917, the Model 1911 Government Model auto pistol had been our official sidearm for some six years.

Unfortunately, Uncle Sam had not produced enough of them to supply the vast numbers of doughboys that he planned to send to France, so it was decided in 1916 that development begin on a method of altering existing arms to handle the .45 ACP cartridge.

Initial experimentation was undertaken by Smith & Wesson, which modified its Second Model Hand Ejector revolver to chamber the rimless auto round. It achieved this by altering the cylinder to accept the ammunition, which was snapped into a pair of three-round spring-steel "half-moon" clips to facilitate loading and ejection. The system worked quite well and was also applied to the popular Colt New Service revolver.

Lynn P. Go photo



Model 1917 Colt New Service



Despite its size, the New Service fits well in the hand and is an excellent, reliable shooter.

The New Service, which was initially cataloged in 1898, was a large-frame, robust sixgun that proved to be Colt's first really reliable double action. It saw considerable civilian use, was accepted by the Canadian North West Mounted Police in 1905 and, in .45 Long Colt, was carried by the U.S. military as early as 1909 when, during the Philippine Campaign, the .38s then being issued were found lacking in stop-

ping power against Moro tribesmen. At the outset of the Great War, the British—short on just about every kind of small arm—also ordered a large quantity of them in .455.

From the time of the gun's introduction until its demise in 1944, Colt turned out some 355,000 New Service revolvers. As well as the chamberings mentioned above, at various times during its lifespan the gun could also be had in .38

Colt (Long and Short), .38 Special, .357 Magnum, .38-40, .38-44, .44-40, .44 Special, .44 Russian, .450, .455 and .476. Barrel lengths ranged from 2 to 7½ inches. There were special target models with adjustable sights (the standard gun had a simple blade front sight and notch-in-topstrap rear), versions embellished with fancy grips, engraving, gold-and-silver decoration and even bobbed carry versions.

The New Service was not a small revolver, weighing in at 40 ounces (4½-inch barrel), though it was well balanced with a comfortable grip and pleasant, positive double action. The cylinder latch, a portion of which also acted as a recoil shield, was pulled to the rear to free the cylinder (unlike the S&W Hand Ejector, which employed a latch that had to be pushed forward). Once the cylinder was swung out, spent cases were removed by pushing back on a stout ejector rod. The first 50,000 1917s were made with straight chambers, but later guns had stepped cylinders so that, in a pinch, .45s could be loaded without the clips. If loaded naked, the ACP cases could not be engaged by the star extractor, so it was necessary to poke them out one at a time with some sort of rod.

With the exception of the modified cylinder, the Model 1917 New Service was pretty close to the regular over-the-counter factory product, and it came standard with smooth walnut grips and a lanyard ring at the base of the butt. The finish was blued, though the gun was not polished as highly as the civilian model. Barrel length was 5½ inches, and the sights were the usual nonadjustable style. As well as the standard Colt legend on the top of the barrel, the '17 was stamped "UNITED STATES PROPERTY" on the underside of the barrel and



The Colt Model 1917 New Service revolver maintains the same general silhouette of the civilian model but has, as standard, smooth walnut grips and a lanyard ring (though some civvy versions also incorporated that feature). The finish is generally good, but the polishing is not up to commercial standards.

"U.S./ARMY/MODEL/1917" in front of the lanyard ring.

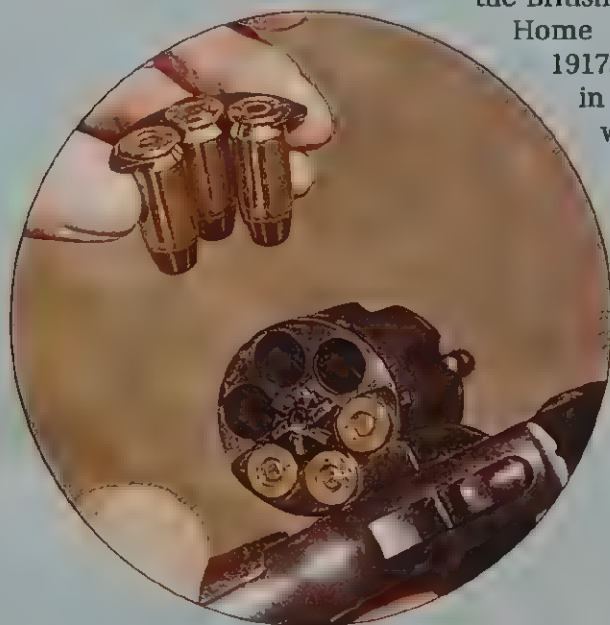
While the New Service was able to take advantage of some accessories already in the military pipeline (lanyards, pistol belts, cleaning gear), some specific items had to be developed. A russet-leather holster, similar to the style used with the older Colt .38 Army and Navy, was added to the inventory, as was a three-pouch canvas ammunition carrier that held six three-round half-moon clips full of ammo.

While the 1917 Colts and Smiths were never issued in the

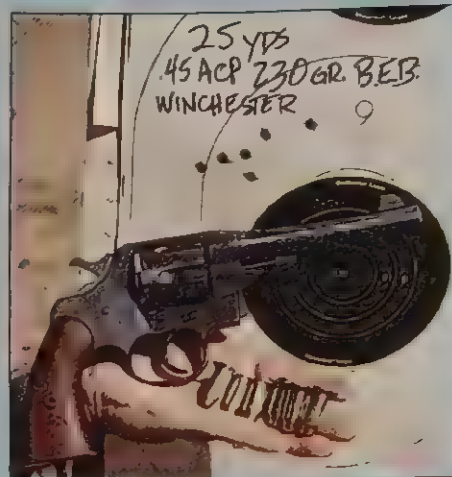
numbers of the Government Model, a goodly quantity made it to the trenches, where they were well regarded. In fact, some of the veteran officers actually preferred the revolvers to the newfangled auto.

As the war drew to a close in 1918, orders for the Colt were stopped, though some 151,700 had been produced. After the conflict, all of the Colts and Smiths were pulled from service and put into storage. With the onset of World War II, however, they were again issued to British and American units. Apparently, the British reserved them for the Home Guard, though some 1917s did see actual service in Europe and the Pacific with the U.S. Army and Marines.

Our evaluation 1917 was a very clean New Service, exhibiting about 90 percent of the original finish. My guess is that the gun was probably never issued, or if it was, it certainly saw light duty. Its bore was perfect and the action tight and crisp. The single-action trigger pull came



Model 1917 revolvers (both Smith & Wesson and Colt) were charged with the aid of half-moon clips. These allowed the rimless rounds to be loaded faster and be extracted properly.




Groups with the '17 New Service were certainly military-grade-acceptable. Commercial target versions of this gun were highly regarded by marksmen.

in at a very military 6½ pounds while the DA broke at just under 15 pounds. Admittedly, these are not exactly target-grade, but that's precisely the way the Army wanted it in order to prevent accidental discharges and such. We found that once one got used to them, even the double-action was perfectly manageable. This was abetted, to a large degree, by the excellent grip and generous trigger configuration.

The small notch rear sight was not exactly ideal for combat use, and we found target reacquisition to be a tad dicey. Still, the gun turned in respectable 3½ to four-inch 25-yard rested groups using 230-grain Winchester .45 ACP. The half-moon clips worked perfectly and facilitated both charging and ejection. One could consider them a sort of early speed-loading device, and, in fact, similar appliances are currently being offered for just such a purpose. Functioning was perfect and seven-yard DA spreads not too bad—certainly combat-worthy.

While I always have been a big fan of the 1911, were I issued a 1917 New Service, I would not feel at a particular disadvantage during a trench raid or sojourn in no-man's land.

Swiss Model 1931 Carbine



This improved version of the straight-pull Schmidt-Rubin remained in service for more than five decades.

By Garry James

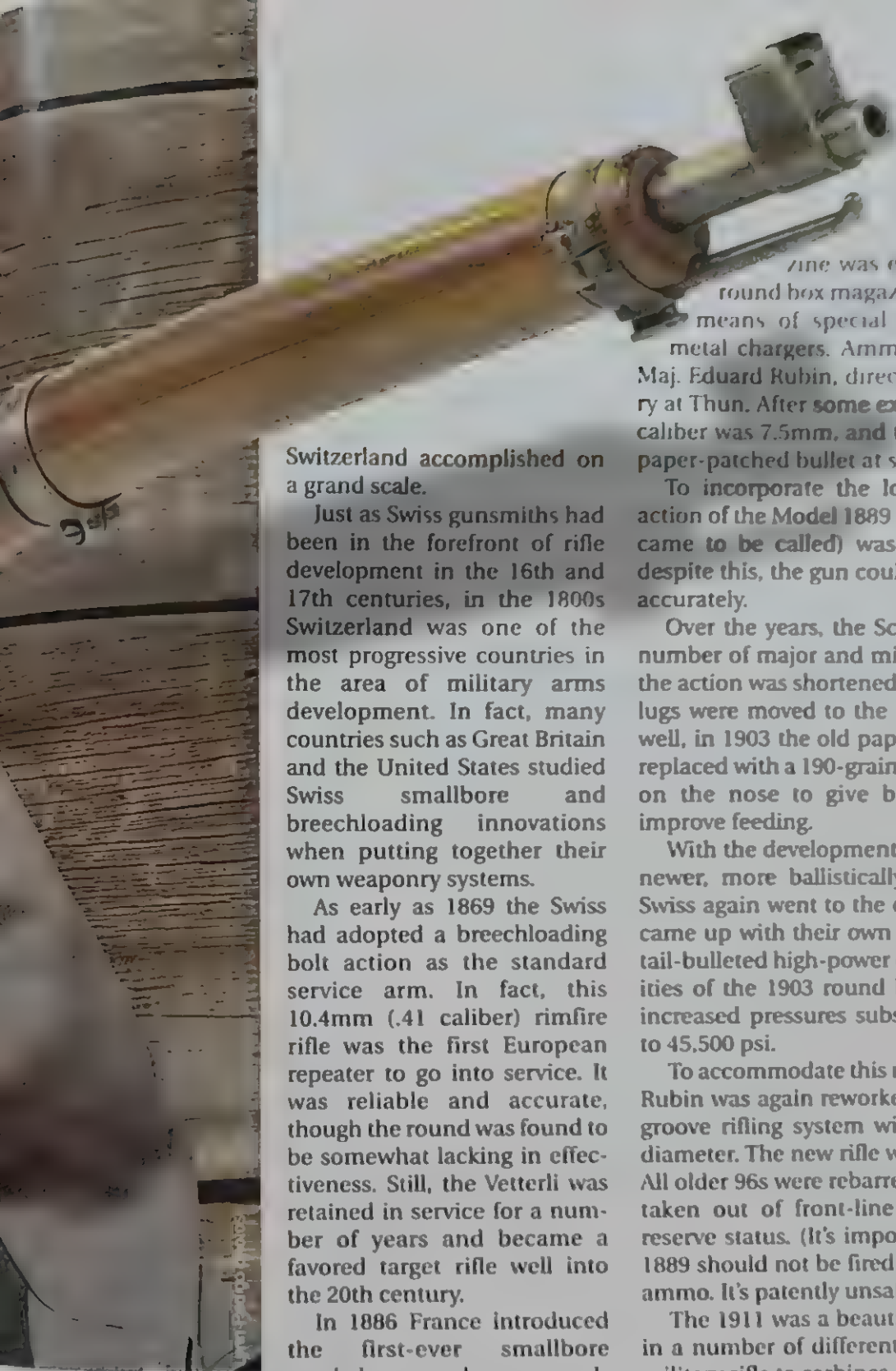
The K31 is a sturdy, businesslike military bolt action whose lineage goes back to 1889. It was reliable and effective.

Switzerland is a fascinating place. It's one of the few places where German, French and Italian cultures work in harmony for a common good. And while there may be some cantonal differences, as opposing forces found out in two World Wars, the Swiss fiercely guard their neutrality.

Of course, such was not always the case. A few centuries ago the Helvetians provided some of the most feared mercenary soldiers in Europe, a vestige

of which may still be seen in the Vatican's Swiss Guard.

Still, it was recognized that, geographically (Switzerland is landlocked and surrounded by countries that are not always particularly friendly to one another), perhaps it was best to become a neutral state. Of course, the only way to properly maintain this arrangement was to make sure that her arms and military forces were second to none, and this



Switzerland accomplished on a grand scale.

Just as Swiss gunsmiths had been in the forefront of rifle development in the 16th and 17th centuries, in the 1800s Switzerland was one of the most progressive countries in the area of military arms development. In fact, many countries such as Great Britain and the United States studied Swiss smallbore and breechloading innovations when putting together their own weaponry systems.

As early as 1869 the Swiss had adopted a breechloading bolt action as the standard service arm. In fact, this 10.4mm (.41 caliber) rimfire rifle was the first European repeater to go into service. It was reliable and accurate, though the round was found to be somewhat lacking in effectiveness. Still, the Vetterli was retained in service for a number of years and became a favored target rifle well into the 20th century.

In 1886 France introduced the first-ever smallbore smokeless-powder general-issue longarm to its troops, quickly followed by Germany, Austria and Great Britain. Clearly, this was the wave of the future, and the Swiss didn't want to be left behind. Work began on a revolutionary new arm, which debuted in 1889.

This unique rifle, designed by the director of the Federal Arms factory at Bern, Col. Rudolph Schmidt, featured a straight-pull bolt that incorporated some Vetterli features, though the Vetterli's tubular maga-

zine was eliminated in favor of a 12-round box magazine that could be loaded by means of special six round cardboard and metal chargers. Ammunition was developed by Maj. Eduard Rubin, director of the munitions factory at Thun. After some experimentation, the chosen caliber was 7.5mm, and the round fired a 210-grain paper-patched bullet at some 2,050 fps.

To incorporate the long straight-pull bolt, the action of the Model 1889 Schmidt-Rubin (as the rifle came to be called) was inordinately lengthy. But despite this, the gun could be fired very rapidly and accurately.

Over the years, the Schmidt-Rubin underwent a number of major and minor modifications. In 1896 the action was shortened, and the bolt's rear locking lugs were moved to the midpoint of the action. As well, in 1903 the old paper-patched lead bullet was replaced with a 190-grain projectile with a metal cap on the nose to give better penetration and to improve feeding.

With the development in France and Germany of newer, more ballistically efficient projectiles, the Swiss again went to the drawing board and in 1908 came up with their own 7.5x54mm 174-grain boat-tail-bulleted high-power cartridge that upped velocities of the 1903 round by more than 500 fps and increased pressures substantially—from 38,400 psi to 45,500 psi.

To accommodate this new cartridge, the Schmidt-Rubin was again reworked by adopting a new four-groove rifling system with a minimum .3075-inch diameter. The new rifle was designated Model 1911. All older 96s were rebarreled, and Model 1889s were taken out of front-line service and relegated to reserve status. (It's important to note that a Model 1889 should not be fired with modern 7.5mm Swiss ammo. It's patently unsafe.)

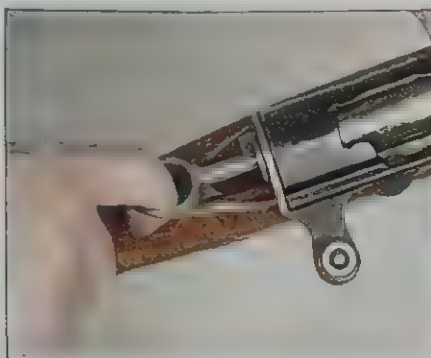
The 1911 was a beautiful arm, and it was offered in a number of different versions, from a standard military rifle to carbines, short rifles, cadet rifles and sniper and target models.

The bolt of the gun featured dual hard-rubber knobs and a large ring-shaped cocking piece that doubled as a safety. To put the gun on Safe, it was simply a matter of pulling back on the ring and turning it 45 degrees to the right. As well, the magazine had (in 1896) been reduced to six rounds, allowing it to be a bit more flush with the bottom of the stock. While, like the Lee-Enfield, it was not intended to be

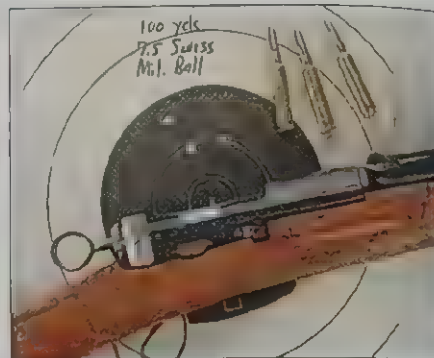
Swiss Model 1931 Carbine



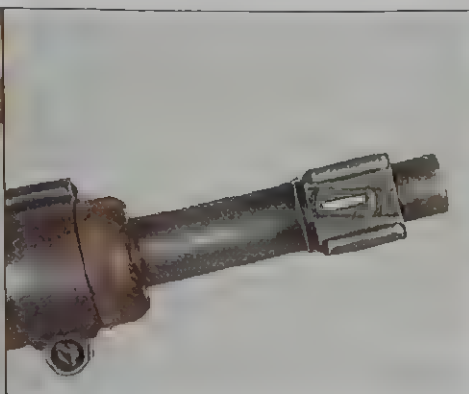
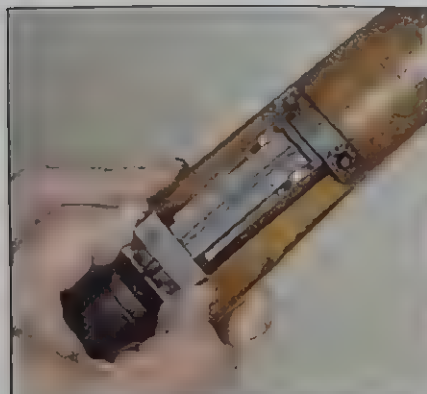
Though somewhat long, the K31's straight-pull bolt is easy to manipulate, and it's very smooth. To remove the bolt, simply press down on the release on the action, and pull it to the rear.



The K31 employs a ring-style cocking-piece safety that must be turned 45 degrees to the right to put the gun on Safe.



At 100 yards, the K31 was easily able to manage 1½-inch groups from a rest. The whole 1911/K31 series of Swiss rifles is famed for its accuracy.



The K31's sighting arrangement involves a ladder-style rear graduated to 1,500 yards (left) and an adjustable blade front (right) protected by flanking "wings."



The six-shot magazine—although not intended to be routinely removed—can be taken from its well by means of a simple release catch located on the right-hand side.

routinely removed from the gun, it could be taken from its well by means of a catch affixed to the right side of the mag. Like other Swiss rifles, the 1911 was found to be extremely accurate and did very well at rifle competitions.

In 1931 the rifle was again upgraded with a new locking system designed by Col. Furrer, and the gun was shortened and redesignated Karabine Modell 31. As well as the standard infantry arm, there were K31/42, K31/43 and K31/55 sniper rifles.

The K31 had a ladder-style rear sight graduated to 1,500 meters. Sling swivels were on the left side of the buttstock and center barrel-band. Overall length was 43½ inches with a 24-inch barrel. Magazine capacity was six rounds, and weight of the piece some 9.4 pounds.

Fortunately, Samco Global Arms

Inc. (Dept. SE, 6995 Northwest 43rd St., Miami, FL 33166; 305/593-9782) is currently offering K31s at quite reasonable prices, and I was able to obtain one from the company for this evaluation.

Mechanically, the condition of the test rifle was quite good, though the piece does show a bit of use. It must be remembered that these rifles were used by reserve troops for a number of years after the adoption of the SIG StG 57 rifle, which was adopted in 1956. The receiver is nicely blued and emblazoned on the top with the Swiss cross. The bolt is beautifully machined and left in the bright in the Schmidt-Rubin manner. The bore was perfect.

I was eventually able to scrounge up some military-issue 7.5mm target ammo, which I duly took to the range for a shooting session. The action was positive

and very easy to operate. In fact, it is possible to work the bolt from the shoulder without drastically affecting the sight picture. As I did not have any chargers, ammo had to be loaded into the magazine one at a time, but this presented no real problem. Feeding and ejection was excellent, though recoil, especially from the bench, was a tad on the stout side. Still, I was able to manage 1½-inch 100-yard rested groups, and offhand snap-shots at 200 yards consistently rang a gong set up at that range. The trigger measured a very pleasing 4½ pounds after a bit of takeup.

The K31 was a lot of fun to shoot, and when more ammo becomes available I plan on giving it a much more thorough workout. Despite the Swiss connection, there's really no way to remain neutral about this rifle—it's a winner.

©

Model 1886 Lebel

Though awkward by modern standards, this revolutionary arm was the secret weapon of its day.

By
Garry James

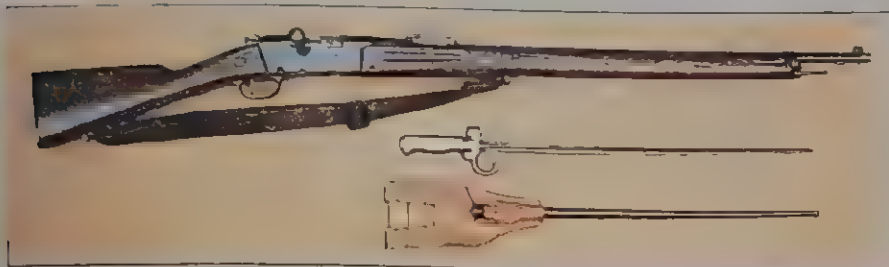
It was ungainly, a Frankenstein-like put-together of older firearms components. In practically no time it would be eclipsed by far more sophisticated designs, but for one brief moment, this unlikely piece of armament was the most coveted secret weapon of its day.

The French *Fusile Modele 1886*, better known as the "Lebel" was the first smokeless powder military longarm to be fielded by any army. Foreign arms experts printed wild speculations concerning the effectiveness of the gun's 8mm round:

"According to French accounts, the powder is both smokeless and noiseless. If this were the case, no doubt it would produce changes in the mode of fighting, and surprise would be greatly facilitated. Last year, however, experiments were conducted at the German Artillery School and at the Manoeuvres with an almost identical powder, the results of which proved that the advantages of the French powder were greatly exaggerated. The report of the rifle is distinctly heard\ and is little, if at all, less loud than that of the old powder. The smoke, it is

The Model 1886 Lebel was a long, ungainly arm whose looks belied its effectiveness. It was one of the primary rifles of World War I and was very popular with the French poilu. Gun and equipment from the author's collection

Model 1886 Lebel



Nicknamed the "knitting needle" by the Germans, the French cruciform bayonet fitted securely under the muzzle. It was released by a spring-loaded, knurled button. Several variations of this blade exist.



Ammunition is loaded into the magazine one at a time. Note the O-ring crimp in the cartridge base to keep the bullet nose from contacting the primer.

true, is very much less but is still quite visible on a still day, its color being a transparent dull blue."

While the above report from the 1890 edition of *Armies of Europe* is largely true, a certain amount of sour grapes is discernible. The new French *Poudre B* was a revolutionary step forward in military small-arms development and one emulated (as soon as possible) by most of the world's major powers.

In 1885, after considerable experimentation, French researchers Monsieur Vielle and Captain Desalux came up with a practical smokeless powder that offered considerable velocity with manageable pressures and little fouling.

Authorities immediately began developing a new round and rifle to accommodate this discovery. The chosen cartridge had a tapered, rimmed bottleneck case and a nickel-jacketed, 216-grain,

roundnose 8mm bullet that left the muzzle at a then-astounding velocity of some 2,350 fps. The rifle, though, was not anywhere near as revolutionary as the round, being basically an amalgam of the older French service arms.

In 1878 the French equipped their marines with a version of the Austrian Kropatschek bolt-action repeater—an 11mm black-powder arm featuring a tubular, under-barrel magazine. Rounds were loaded into the magazine one behind the other against a spring-loaded metal plunger. A floorplate, hinged at the rear, dropped down when the bolt was closed, ready to receive a cartridge. When the bolt was opened and a case ejected, the follower snapped up, placing a round in chambering position.

It was decided by authorities that this action, though a tad archaic, would be OK to adopt for the new cartridge. The *Fusile Modele 1886* was also called the M86 Lebel after its designer Colonel Lebel, though there was little new in it, the gun being little more than a modification of the Modele 1878 *Fusile de marine* with an older-style Gras-type bolt and a modification of front-locking lugs to accommodate the *Poudre B*'s higher pressures.

Unlike the Kropatschek or the Gras, the Lebel had a slab-sided receiver, necessitating the use of a two-piece stock. It measured 51 inches overall, weighed 9½ pounds and had a 31½-inch barrel. The magazine held eight rounds, and this coupled with a round in the

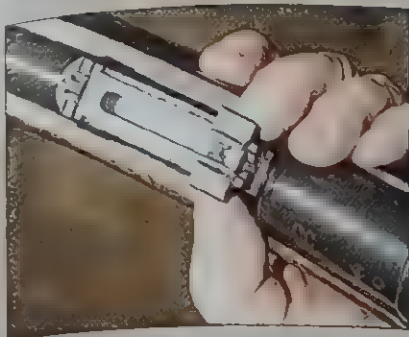
carrier and one in the chamber gave the gun a 10-shot capacity, which was quite a bit of individual firepower for the period.

Balle M, the original round for which the gun was designed, had a roundnose bullet to eliminate the possibility of accidentally discharging the nose-to-tail cartridges in the magazine, a problem experienced by early Winchester repeaters.

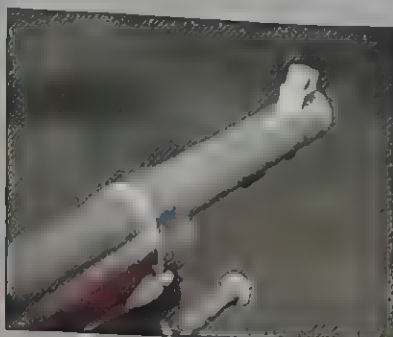
Further tests and use in the field pointed out a few weaknesses in the arm. In 1893 the bolt head was modified to allow gas to be safely vented should a primer be pierced, and the receiver was strengthened slightly to accommodate the new, heavier pressures. This altered arm was designated, appropriately enough, the *Fusile Modele 86/93*. It is this version most often encountered by modern collectors.

The sights of the M86 were interesting, though. Like the rifle, they would experience some modifications during the rifle's life span. The rear ladder-type sight was initially graduated to 2,000 meters, though with the development of new loads, this was eventually upped to 2,400 meters. The ladder could be rotated completely forward, exposing a 250-meter battle sight notch. Early front-sight blades incorporated a depression at the rear into which was placed a small amount of radium for night use. This was later replaced by a groove atop the wide blade, which, theoretically, would admit a pinpoint of light that the shooter could use to reference a dark target.

In 1898 *Balle D* was brought into service. This round incorporated a 197-grain bronze, pointed bullet that dramatically increased its effective range. An O-ring crimp surrounding the primer eliminated the possibility of chain firing with the spitzer-shaped projectile. Also, in 1932 hotter *Balle N* was developed for machine-gun



The Lebel rear sight was graduated to 2,400 meters. Flipping the ladder forward completely exposed the battle sight.



The front sight involved a wide blade that incorporated a small notch at the rear, which was used as a primitive night sight.



Like most military arms of the period, the '86 Lebel was equipped with a cut-off for single shots (the theory being that the rounds in the magazine should be kept in reserve). The mechanism is activated by a side-mounted button.

use, and many M86 rifles were reproved for use with this round. Guns safe for use with *Balle N* are stamped on the tops of their barrels and receivers with a large "N." Rifles without this designation are unsafe to shoot with the late French service ammunition.

The '86 Lebel was fitted with a sleek 20½-inch cruciform-bladed bayonet with a metal (nickel, silver or brass) grip. This weapon, nicknamed by the French "Rosalie" and by the Germans the "knitting needle," produced a small, nasty puncture wound that was slow to heal and prone to infection.

Our evaluation rifle was an M86/93 that has been in my collection for over 20 years. Despite its ungainliness, it has always been one of my favorites, and I look for any excuse to take it to the range.

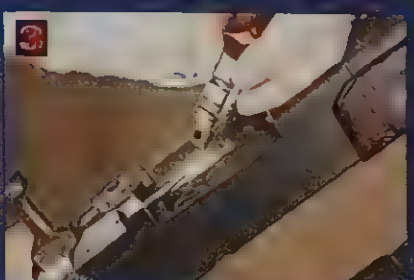
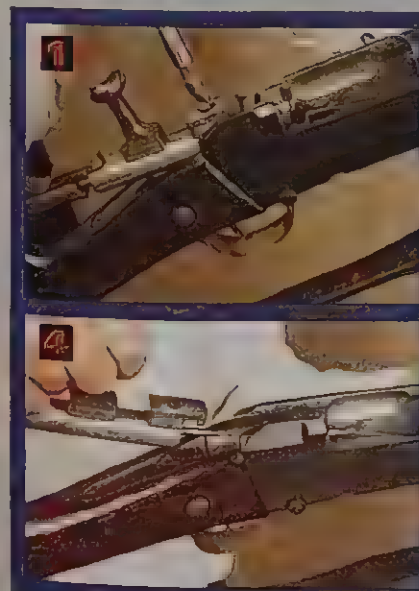
It had been proved for *Balle N*, so the ammo used was some 1940s-vintage French-issue fodder that I had picked up some time in a past life.

It might be noted that some commercial Remington ammunition was produced years ago, and it still turns up now and again. Brass is offered by Hornady/Graf. Too, ammo can be made by forming .348 Winchester brass. The problem with both of these loads is neither features the O-ring crimp and thus must be loaded single shot. Never under any circumstance stoke an '86 Lebel magazine with any of this ammo.

The trigger on the gun was World War I-adequate. It had a long two-stage pull that broke at about five pounds.

The gun functioned perfectly, with the rounds feeding flawlessly from the tube. Unfortunately, the same cannot be said for the ammo, which did give us a hang-fire or two, unnerving the shooter and (no doubt) affecting the groups, which ran about six inches at 100 yards. Recoil, by the way, was relatively light, as one might expect in a 9½-pound rifle. Sights were adequate, and we were even able to hit a 200-yard gong pretty regularly using the battle sight.

Sure, the '86 was obsolete almost as soon as it came out, but with proper ammunition it can still provide a lot of good sport. For nostalgia, history and just plain shooting fun, the Model 1886 Lebel is at the top of my personal list. ©



To remove the Lebel's bolt, first ensure the gun is unloaded. Now remove the screw that joins the bolt head and bolt together (1). Rotate the bolt head to the right until it separates from the bolt (2,3). Remove the bolt head and body from the receiver (4,5).

German G.43/K.43

This 8mm autoloader was a practical design that was used in surprising numbers in World War II and beyond.

By Robert T. Shimek

Guns don't always "shoot like they look." Nowhere is this better illustrated than in the German G.43 or K.43 semiauto rifle. From the incredibly crude, unpolished bolt carrier to the extensive use of stampings to the ersatz wood stock, the G.43/K.43 seems the archetypal late-war Nazi junker. Yet accuracy of the Model 1943 is often quite good, which is one reason why the arm was no cheapie even back during the pre-GCA '68 "Golden Era of Surplus," when G.43s were viewed as bargain shootin' guns rather than as rare collectibles.

We Americans are accustomed to viewing Nazi Germany as a producer of avant-garde wonder weapons, but the fact is that German technology wasn't always superior to that of the Allies. Sometimes it was inferior—the development of the semiauto rifle is a case in point. During the mid-

1930s, Nazi Germany had committed herself to staying with the battle-proven Mauser bolt rifle in preference to developing a major-caliber semiauto arm. As early as the French campaign of 1940, the wisdom of this decision came into question. German soldiers felt outgunned by British Tommies, with their quick-firing, 10-shot Lee-Enfield bolt guns. The implication of the future, when the Wehrmacht might have to face Russians or Americans armed with Tokarev or Garand semiautomatic rifles, was obvious. Hence, an emergency specification for a self-loading rifle was promulgated by the *Heereswaffenamt* in 1940, and Germany's two prime manufacturers, Mauser and Walther, responded with prototypes.

Both guns were "dogs." Mauser's entry was an ungainly item that weighed—get this—11 pounds empty. It required the manipulation of a bolt-gun-style

3 Rifle



the main headache, this was discarded. A substitute system was found in—of all places—the Soviet Tokarev SVT-40 rifle. The Russian mechanism (a creation of subhumans, according to Nazi propaganda) was copied with minor revision. The locking system was retained from the G.41(W). The G.41(W)'s 10-round integral box magazine was discarded in favor of a 10-round detachable box magazine. Barrel length became circa 22 inches. Three-quarter-length rather than full-length stocking was employed. An all-up weight saving of about 1.5 pounds was realized. A handguard of either wood or plastic was standard. No system for bayonet attachment was incorporated. The V-notch-style sighting equipment was adjustable to 1,200 meters. A mounting rail for a telescopic sight mount was machined into the right side of the receiver. The result was sufficiently impressive that the gun was ordered into production in the spring of 1943.

The G.43 (for *Gewehr* 43 or "Rifle 43") went into production first at the Walther plant at Zella Mehlis in Thuringia. Walther-made G.43s generally bear the "ac" ordnance code. Berliner-Lubecker and Gustloff-Werke began manufacture a bit later, marking their guns with the codes "duv" and "bcd," respectively. There are also "qve"—coded guns, which are the subject of controversy, with some experts opining that these were Walther-made, others insisting that Berliner-Lubecker was the manufacturer. Standards of fit/finish in G.43 and K.43 rifles were characteristically rough since these guns were made under war-emergency conditions. The crudeness was such that, though G.43/K.43 was a good design, parts breakage was a recurring nuisance.

Surviving wartime photography shows that some G.43s served as standard nonscoped infantry rifles, though usually this was among specialist troops. A large number of the guns served in the sniping role. The normal scope was the four-power ZF-4, which was attached via a quickly detachable mount. The prime advantage of the G.43 as a sniping arm was that no position-revealing turnbolt manipulation was required for repeat shots. The prime vices were heavy all-up weight and accuracy that, while fine by semiauto standards, didn't measure up to a K.98k bolt-action sniper rifle. Most German *Scharfschützen* remained committed to the bolt gun, though not all did.

Variants of the G.43 included the K.43 or *Karabiner* 43. This is said to have lacked the hold-open that appeared on G.43, as well as the cleaning-rod section stowed under the barrel. According to one source, K.43 lacked the scope mount rail, too, though a sample gun would seem to defy this. I have heard of a G.43 variation with shortened barrel and integral flash suppressor, though I have never seen one.

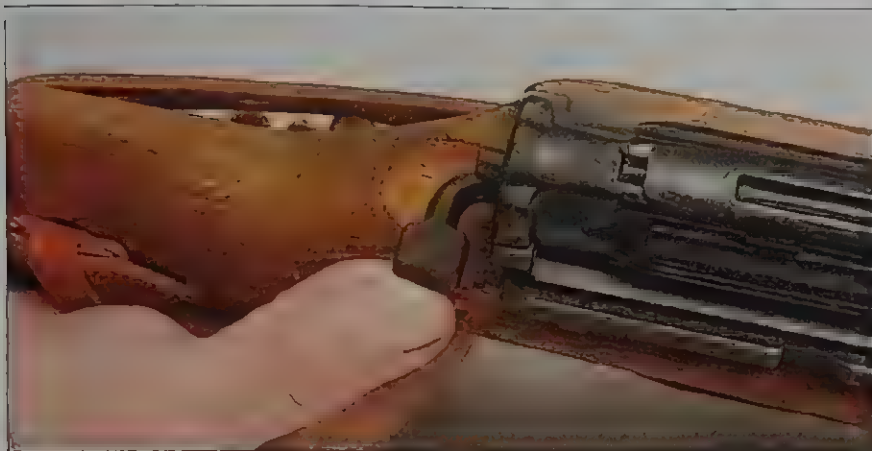
handle to load the first round, following which the gun operated semiautomatically, using the less than totally satisfactory gas-operation system invented by the Dane Soren Bang. Walther's entry also weighed in at a ponderous 11 pounds empty. It, too, employed the Bang system (which used a muzzle-mounted cup to trap the gases needed to operate an annular piston). Dog or no, Walther's gun was ordered in substantial five-figure quantities as the G.41(W). It is known to have seen action, though the proposed production totals never came close to being met. Gew41(M), which was manufactured only in tiny quantities, may have seen service, too. But neither arm worked out well. The Bang gas system was difficult to clean, which led to corrosion and malfunctions. A better rifle was needed.

Waffenfabrik Walther set about redesigning the G.41(W). Since the Bang-inspired gas system was

German G.43/K.43 Rifle



The G.43/K.43 innards were protected by a sliding dustcover. This is not a new feature in firearms and has also been used in lever and bolt guns.



The G.43 manual safety must be moved through an arch of 180 degrees and could be a challenge for a gloved hand, but it is positive.

Manufacture of G.43 and K.43 rifles continued up until war's end, by which time more than 400,000 had been completed. But the gun's military service did not conclude with war's end as the Czechs retained the gun for years as a sniper rifle.

The sample German 1943 rifle was a "K.43"-stamped, Walther-produced arm bearing the "ac" ordnance code on the receiver below the rear sight. This version lacked the bolt-carrier latch. Standards of construction were as crude as described earlier...on the outside. Inside, however, the arm showed surprisingly good fit and a high standard of polishwork. A thorough safety check conducted by a competent professional gunsmith—a necessary first step before any sur-

plus rifle is fired—resulted in a clean bill of health for the gun.

Fieldwork commenced with simple familiarization handling—a process that revealed the *Karabiner* 43 to be quick-handling. The gun felt both shorter and lighter than it actually was. The sole ergonomically unpleasant feature was the manual safety lever, which was located behind the bolt housing. Gaining purchase on this control so as to rotate it through its 180 degrees of arc would have been a problem with heavily gloved hands.

Mechanical accuracy and functional reliability were sampled using two types of 8mm Mauser ammunition: modern commercial 170-grain Soft Point made by Winchester for the hunting market

and 196-grain FMJ of surplus military origin. Both rounds were accurate in the *Karabiner*, with the Winchester ammo yielding a 1.75-inch, 100-yard benchrest group as of the second attempt while the FMJ printed about 2.25 inches, also on the second try. Subsequent efforts showed these groups to be typical. Functional reliability was to be had only with the surplus fodder. This worked perfectly through 50 rounds while ejection-phase stoppages were common with the Winchester hunting ammo.

I noted positive extraction and ejection with the surplus fodder but also a random ejection pattern. Expended cases typically were tossed 20 feet or so, and case necks and mouths were often indented deeply. Hence, though it hardly mattered to the German army, the *Gewehr* 43 is emphatically not the arm for the hand-loading enthusiast.

The gun isn't optimum for the shooter with aging eyesight either. The rear sight, a tiny tangent V-notch similar to that found on the K.98k rifle, is a curse compared to the customary U.S. aperture-style rear. At 100 yards it's usable, but at 200 yards, efficient aiming—at least for this middle-aged writer—was tough. I never printed a sub-12-inch group with the K.43 from 200 yards, though at half that distance I never exceeded four inches, no matter how sloppy my triggerwork became.

Otherwise, the Walther showed some nice shooting qualities. Recoil was gentle by 8mm Mauser standards. The trigger was manageable: Let-off was in the four-pound range; there was a substantial takeup and lots of over-travel but no creep. Off-hand characteristics seemed fine. Even fieldstrip was what it should be, which is to say, easy to learn, not difficult to accomplish.

As we can see then, the German M1943 rifle performed

much better than its crude appearance would suggest. In fact, its two-OA capability and perfect functionality with service ammo would be the envy of some arms produced today. No, this classic is not a shootin' arm for

the modern arms enthusiast. Its breakage proneness has already been mentioned, and the hassles attendant to getting spare parts today deserve mention, too. The collector value must be considered also. An all-original G.43 or

K.43, in very fine condition, can bring near four figures nowadays; sniper guns complete with scopes bring substantially more. But the gun survives as a monument to the notion that in battle rifles, beauty is as beauty does. ©



To fieldstrip a G.43, first open the action, and inspect the chamber to make sure the gun is unloaded. Close the bolt, and rotate the safety to Safe. Then, while drawing back on the operating handle, depress the rear recoil-spring guide (1), and lift the bolt and bolt housing and the recoil spring and guide from the receiver (1,2). Push in on the bolt latch (3). Separate the bolt and cover (4). Remove the spring and guide (5). Slide the bolt out of the housing (6). Remove the firing pin (7,8). Remove the flaps (9). Remove the handguard by pressing in on the front band retaining spring (and remove the front band (10). Lift off the handguard (11). Pull back on the connecting rod (12), and remove the actuator rod and spring from the gun (13).

Springfield .45-70 Trapdoor

This classic breechloader remained in service for almost a half-century.

By Garry James

Lynn Pedigo photos

While the majority of battlefield casualties during the American Civil War were inflicted by muzzleloading rifled muskets, scads of different types of breechloading longarms, and a couple of repeaters, were also tested during the conflict—and were generally found to be superior to the older muzzleloaders.

The U.S. .45-70 Trapdoor rifle was handsome, well made and served in various capacities for over half a century. This Model 1888 rifle (author's collection) is shown with volunteer trappings from the Spanish-American War.

In fact, breechloaders had been adopted as primary issue arms in some of the German states a decade or so prior to the War Between the States, and other countries, such as Britain and France, were making great strides in this area as well.

By 1864 it was recognized that breechloaders employing self-contained cartridges were the wave of the future, and the U.S. War Department set about investigating the situation. Ever economy-minded, authorities were really looking for a system in which the thousands of rifled muskets then in

"trapdoor," which was hinged at the front and secured at the rear by a thumb-operated latch. This was found to be too delicate and the extractor less than efficient in pulling expended cases from the chamber. The invention was massaged and improved. What finally emerged was an entirely satisfactory setup involving an entire breech mechanism screwed on the rear of the barrel. It contained the trapdoor, extractor and thumb

catch. The rear hinge was beefed up and the extractor

improved.

In 1865, "Allin's Alteration" was officially adopted. As it had a long firing pin traversing at an angle from the front of the block to the rear, where it could be struck by a modified musket hammer, the rifle was nicknamed the "Needle Gun"—not to be confused with the German Dreyse *Zundnadelgewehr* (needle gun) that preceded it by a couple of decades.

Caliber was initially .58, but a year later this was reduced to .50

by reaming out and sleeving the older muzzleloading barrels. This Model 1866 rifle also had an improved breechblock, better extractor and a guard on the rear of the block that kept the hammer from striking the firing pin if the breech was not entirely closed. The centerfire cartridge chosen for the arm employed a 450-grain .50-caliber lead bullet backed by 70 grains of powder—the .50-70 Government.

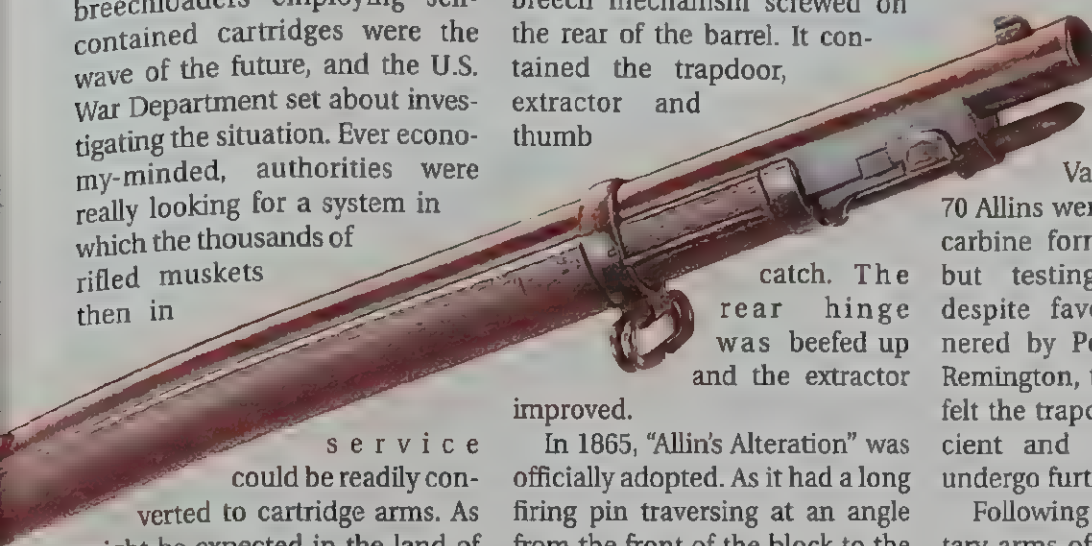
Various models of .50-70 Allins were offered in rifle and carbine form up through 1873, but testing continued, and, despite favorable reports garnered by Peabody, Sharps and Remington, to name three, it was felt the trapdoor system was efficient and reliable enough to undergo further revamping.

Following the lead of the military arms of other countries, the caliber was reduced from .50 to .45. The guns, rifles and carbines, were now manufactured from scratch and were not conversions. Instead of being finished in bright metal, the barrels and metal furniture were blued and the blocks case-hardened. Bullet weight for the rifle was 500 grains and for the lighter carbine, 405 grains. Cases

service could be readily converted to cartridge arms. As might be expected in the land of "Yankee ingenuity," scores of designs were submitted for testing. Of course, Americans were not the only ones concerned with saving money, and the British, for example, ended up adopting a conversion system for their Enfields devised by Jacob Snider of New York in 1866. Many inventors put forth their devices, but the Army threw in something of a ringer when it directed Erskin S. Allin, master armorer at Springfield Armory, to come up with plan of his own.

Many ideas were offered and rejected. When the smoke cleared, those of Henry O. Peabody and Christopher Spencer were decided to be superior to all others, despite the fact neither was suitable for altering the older muskets. Officialdom more or less shelved the findings and continued to look for the ideal conversion. The Allin system was the one finally chosen.

Originally, it involved cutting away the top of the rifled musket barrel at the breech and affixing a



A trap in the Model 1888's buttplate provides space for a takedown tool (right) and an extractor (left) for removing a broken case.

Springfield .45-70 Trapdoor



Though long and a tad hefty, the evaluation Model 1888 Trapdoor was found to be accurate and reliable—though with stout recoil. In the military, black-powder smoke was always a problem and after repeated volleys could obscure the enemy.

were of copper composition and primed by the Benet internal system.

The guns were found to be accurate and reliable, though it was noted that sometimes the sharp blade of the extractor could cut through the soft copper case

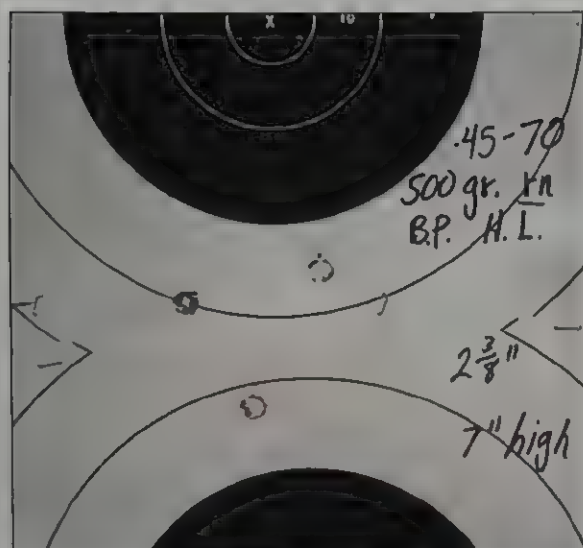
rim, lodging the shell in the chamber; it would have to be removed with a knife or similar implement. This was apparently found to the case with some of the carbines carried by troopers at the Battle of the Little Big Horn, though not to the degree that those looking for excuses for Custer's defeat would have you believe.

As with earlier Needle Guns, the .45-70 Trapdoor would go through a number of models and variations, generally involving breechblock and sight alterations.

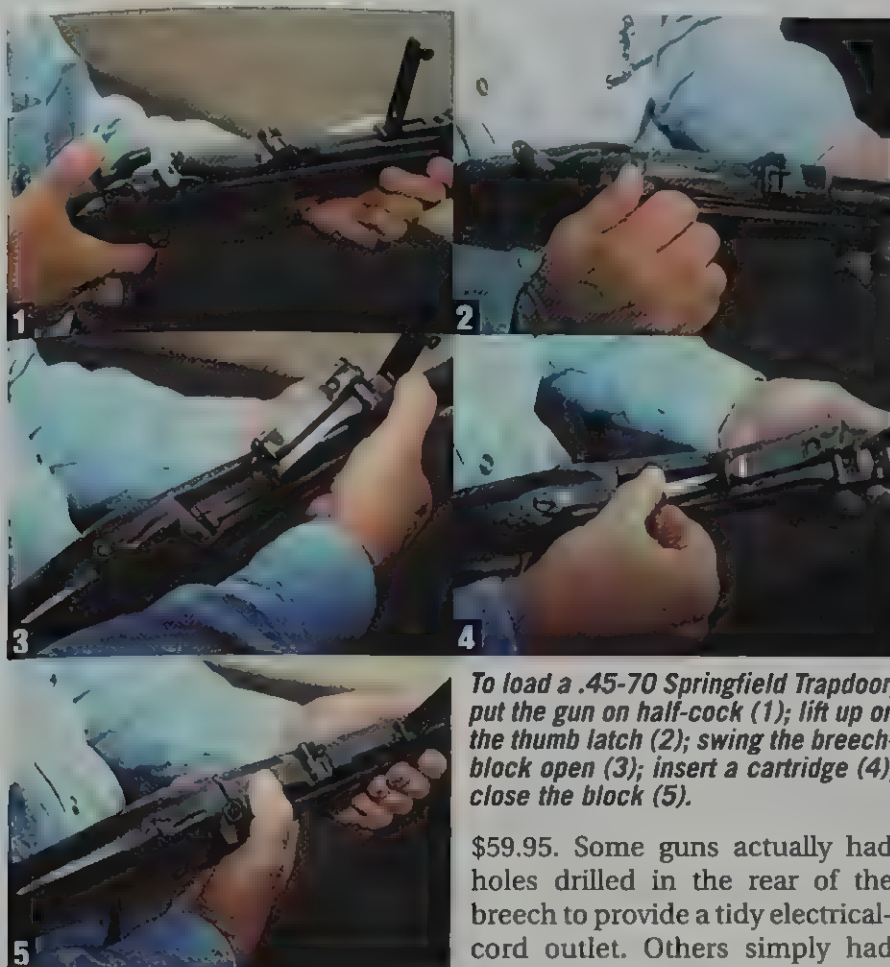
The Model 1884 represented the high-water mark in the Trapdoor, and it was fitted with an extremely sophisticated Buffington rear sight that was easily

adjusted for windage and elevation. While most early-model rifles were equipped with separate ramrods and triangular bayonets, the Model 1888 Springfield had a curious combination cleaning rod and bayonet, which could be pulled out from beneath the barrel.

Despite the fact that the U.S. Army went over to the Krag-Jorgensen bolt-action repeater in 1892, many Trapdoors were carried to Cuba by volunteers during the Spanish-American War. While they acquitted themselves reasonably well, they were certainly no match for the Spanish Mausers. Too, they were still using black-powder cartridges, and the smoke both gave away position and obscured the enemy. While this was also a problem in previous years, at least all the combatants were using black powder. When coming up against modern smokeless arms, however, this proved to put the soldiers at a



Best accuracy at 100 yards was achieved with black-powder handloads featuring a 500-grain lead bullet.



To load a .45-70 Springfield Trapdoor, put the gun on half-cock (1); lift up on the thumb latch (2); swing the breech-block open (3); insert a cartridge (4); close the block (5).

decided disadvantage.

Still, the old .45-70s continued into service well into World War I, where they were used for drill purposes and as "fencing muskets" for bayonet practice. Finally, thousands were sold as surplus for very reasonable prices and provided many a poor civilian with a fairly reasonable hunting arm. The .45-70 itself is no slouch and is pretty much able to dispatch most North American game, within reasonable limitations.

Following World War II, it was not uncommon to see bins full of Trapdoor rifles and carbines at gunshops and surplus stores, selling for less than \$5. I still remember some clever entrepreneurs who took Trapdoors and made lamps out of them, which sold (depending on whether you bought a single- or triple-gun arrangement) for \$29.95 to

\$59.95. Some guns actually had holes drilled in the rear of the breech to provide a tidy electrical-cord outlet. Others simply had the cords run under the open trapdoor.

As well, Hollywood took the Trapdoor to its heart and guns modified to look like everything from flintlock muskets to Enfield carbines can be seen in scads of movies made from the silent era to the present day.

My evaluation Trapdoor was a Model 1888 rifle in extremely good condition. The bore was perfect, and most of the finish remained, including the usually fragile case-hardening. The stock was deeply stamped with inspector's initials and the date "1891."

Chosen ammunition was Remington smokeless 405-grain SPs and 500-grain BP lead loads. It should be noted: Never fire a Trapdoor with anything other than ammunition loaded to original or lighter specs. The action, while efficient, is not all that strong, and beefed-up rounds are an invitation to disaster.

The rear sight was excellent, and I chose to shoot groups with the provided peep. Adjustments for range were easily effected.

Loading the gun is simple: Put the gun on half-cock, lift up the latch, and swing the block forward. A case may be loaded into the breech. Close the block, cock the hammer, aim, and fire. Ejection is accomplished by simply cocking and opening the block. The spring-loaded ejector finger tosses the case well clear of the action. This can all be accomplished in a few seconds, and the gun can be loaded and fired with great rapidity—as was discovered by the Sioux who faced early Allins at the Wagon Box fight near Bozeman, Montana, in 1867. The gun is very reliable, and one can load and shuck shells with great ease.

Its old, curved steel buttplate, a throwback to Civil War-era rifled muskets, did little to ease recoil. Despite the gun's 8½-pound heft, recoil with both smokeless and black-powder loads was a bit stiff. Accuracy, especially with the proper 500-grain black-powder loads, was excellent. I was able to achieve consistent 100-yard 2¾-inch rested groups, though the gun had a tendency to shoot a tad high.

Unfortunately, the days of the \$1.50 Trapdoor are long gone. The .45-70 Springfield, even in its more common rifle configuration, is bringing several hundred dollars a copy, with many rare variations—such as the fancy Officer's Model—running well into the thousands. The gun has proven so popular with shooters and reenactors that carbine replicas are currently being offered by Navy Arms.

The fact that the Trapdoor system lasted in service for a half-century is a pretty good testimonial to an arm that was once considered to be something of a "stopgap" system. ©

Type 99 Arisaka

Japan's legendary battle rifle was crude, quirky and effective.

By Steve Comus

The Japanese Arisaka was the brainchild of Col. Nariakira Arisaka (1852–1915). Essentially, there is but one basic Arisaka action, although there are two major models of rifle. The Type 38, introduced in 1905, was chambered for the semirimmed 6.5x50mm. The Type 99, introduced in 1939, was chambered in 7.7x58mm—also a semirimmed load.





The Type 99 Arisaka—introduced in 1939—saw heavy service in World War II. Flag courtesy Cpl. Howard Miller, 28th Rgmt. USMC, ret'd.

The Type 38's 6.5x50 cartridge sent a .263-inch, 139-grain bullet out the muzzle at 2,500 fps. Barrels featured a right-hand twist of one turn in 7.9 inches. The Type 99's 7.7x58mm cartridge featured a .313-inch, 175-grain bullet that left the muzzle at 2,400 fps. Barrels featured a right-hand twist of one turn in 7.88 inches. The Type 99 came in several versions, the most common being the long and short rifles. The long rifle featured a 31.4-inch barrel, and the short rifle sported a 25½-inch barrel. There were also carbine variants with 19-inch barrels.

There was even a Type I rifle produced for the Japanese navy in Italy combining features of the Model 1891 Mannlicher/Carcano rifle with the Type 38 Arisaka and chambered for the 6.5mm Japanese cartridge. I have one of these, and it is an improvement over the 1891 Mannlicher/Carcano in that it incorporates the Type 38 magazine rather than the Mannlicher clip-fed arrangement of the classic Carcano. My particular Arisaka/Carcano's chamber is just out of round enough that fired cases look ballooned on one side. Apart from that, it shoots pretty well.

Some Arisakas are among the strongest bolt-action rifles ever made. Others probably are less so. P.O. Ackley in *Handbook for Shooters and Reloaders* notes that the Type 38 action was in some ways better than the Mauser, Springfield and other designs of the time and that the heat-treating was superior to that of other military actions.

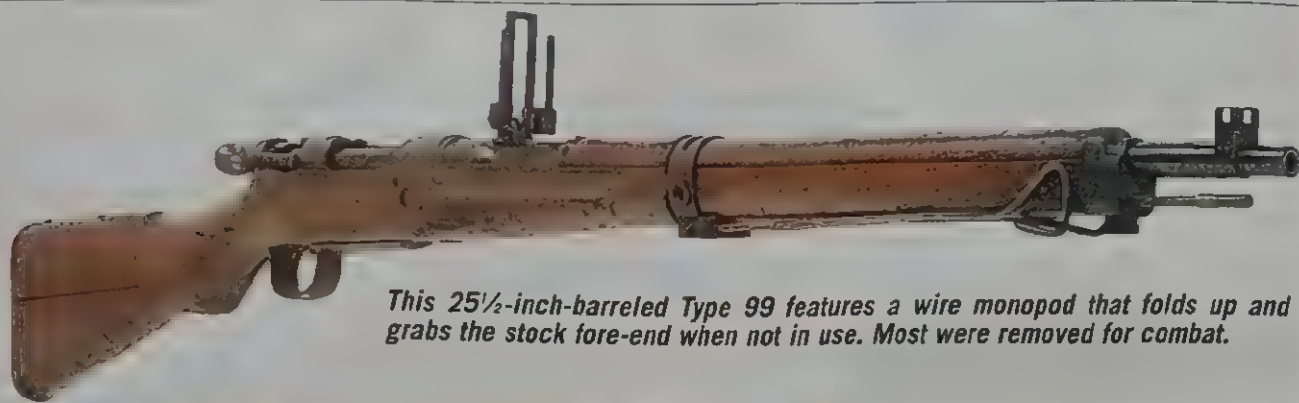
No Arisaka will ever be accused of having a high degree of fit and finish. It is generally safe to say that when the trigger is pulled on

an Arisaka with a round in the chamber, it will probably go *bang*. But this article is not intended to bash Arisakas. Hardly. I find them fascinating. But I also find them quite crude. And I've had more than a few. During the early 1960s, at gun shows it was common for Arisakas to be thrown in with some other gun deal. When I took a gunsmithing course decades ago, I chose a Type 99 for my project rifle. Turning it into a gleaming, butter-smooth specimen was indeed a challenge, but in the process I came to admire Arisakas if for no other reason than to wonder in amazement about how something so rough could have been so effective.

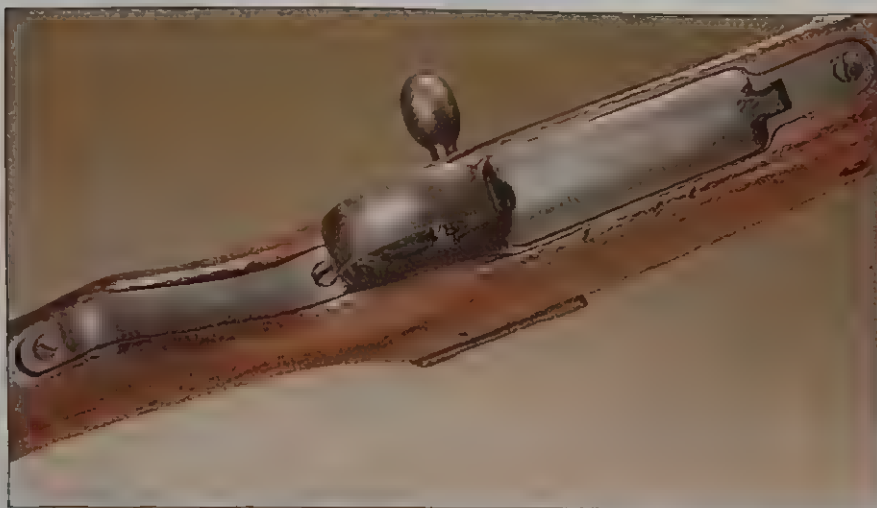
The Arisaka action features a five-round, staggered-box magazine; dual-opposed front locking lugs; and controlled-round feed via a massive nonrotating extractor. Like the 98 Mauser, the Arisaka has a third locking lug, and it also has another safety feature in that the bolt handle itself could serve as a last-ditch catch should all else fail. The huge knob at the rear of the bolt is pushed forward and clockwise to put the rifle on Safe. This also locks the bolt shut. To take the rifle off Safe, merely push the knob forward, and rotate it a quarter-turn counterclockwise.

The safety knob is one of the more noticeable differences between a Type 38 and Type 99. On the Type 38 it is a convex bump on the outer circumference to aid in turning; on the Type 99 it is a concave cut in the outer circumference. Another difference is in the floorplate system. On the Type 38, the release is in the front of the inside of the trigger bow, and the floorplate comes completely out

Type 99 Arisaka



This 25½-inch-barreled Type 99 features a wire monopod that folds up and grabs the stock fore-end when not in use. Most were removed for combat.



Arisaka rifles employ distinctive, long top and bottom tangs in the grip area rather than the typical recoil lug found on most Mauser designs.



The checkered bolt-striker safety knob of the Type 99 has a concave cut on the outside radius for easy grasping.



When Type 99 Arisakas were surrendered at the end of World War II, the imperial chrysanthemum was often ground off.

when it is released. On the Type 99, the release is forward of the trigger, atop the inside of the trigger bow, and the floorplate itself is hinged.

Arisakas lack a recoil lug under the action. Rather, there are long tangs top and bottom, extending from the rear of the action and along the top—and bottom—of the grip for several inches. The system works well.

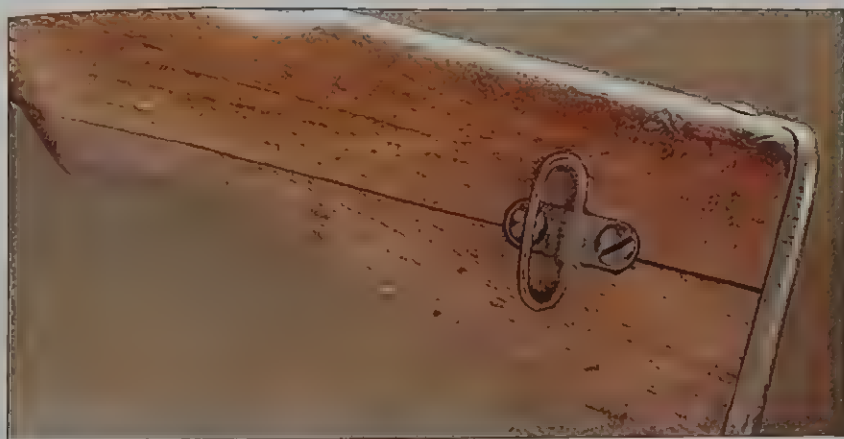
Dimensionally, the Arisaka's front receiver ring is somewhat larger than that of a small-ring Mauser but smaller than a large-ring Mauser.

There are scads of sub-model variants known and identified. But the fun of Arisakas is that more than 6 million were made under such varied circumstances—over such a long period of time—that all kinds of varieties could and did appear.

Earlier production rifles featured a ladder-style rear sight that could be set for distances up to 1,500 meters. When it was in the down position, troops employed a nonadjustable aperture. On all but the last-ditch 99s, the rear sight also included two small arms that flipped out, one on each side of the ladder. These arms had notches to allow for lead when shooting at aircraft. The rear sight for last-ditch rifles was a simple, nonadjustable aperture. The front sight was an inverted "V" post that was drift-adjustable for windage and fea-



The author fires his Type 99 short rifle. Although no tackdriver, it is capable of three-inch 100-yard groups using carefully worked-up handloads.



Arisaka stocks featured straight-grained wood and were constructed by dovetailing two pieces together lengthwise rather than using a single slab of wood.

tured protective ears. I have seen last-ditch rifles, however, that lacked the ears. Rifles made before 1942 came from the arsenal with a sliding dustcover over the ejection port as well as a folding, bent-wire monopod. Most dustcovers and monopods were discarded in combat.

Front receiver-ring markings—in Japanese—identify the rifle as a Type 38 or Type 99. Originally, all had the chrysanthemum marking (symbol of the Emperor). Most surrendered rifles had the 'mum ground off, as does the specimen shown here. Major arsenals that produced the Arisaka included Tokyo, Nagoya and Kokura, although there was production at other facilities. That is why, to my knowledge, there are no accurate production numbers overall, to say little about specific numbers for some of the smaller runs. Suffice it

to say that in order to outfit the Japanese army from the 1930s until 1945, the number was significant. Rifles made before 1942 had chrome-lined bores while ones made after that might not have.

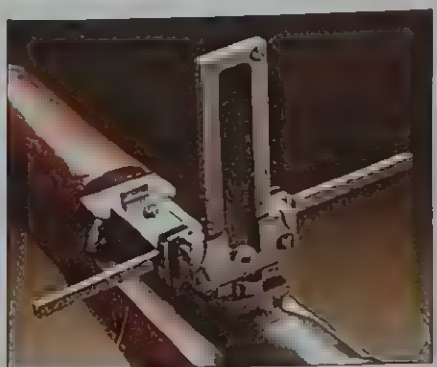
Main-line Type 99s featured a stamped steel buttplate similar to the bucket buttplates of the K98 Mausers of WWII Germany, and some of the last-ditch 99s used no metal on the butt at all—just a slim strip of wood tacked on.

Arisaka stocks featured very straight-grain wood. Two relatively thin pieces were dovetailed together lengthwise instead of using a single slab.

Remaining Arisakas with chrome-lined bores are usually in pretty good shape, despite the corrosive-ammo factor. Chambers and bores, however, can range from pretty good to atrocious. Nominal specifications some-



The rear sight of the Arisaka features an aperture rear as well as a pop-up ladder for long range (above). It also features folding arms (below) to aid when shooting at aircraft.



times are little more than ballpark benchmarks. I have had a number of rifles with irregular chambers, some of them leaving the empty case somewhat bulged on one side (and those chambers had not suffered from post-production rusting). Actual bore and groove dimensions also vary quite a lot from rifle to rifle, or at least from one production run to another.

Accuracy is, at best, OK. It is generally not difficult to shoot a two-inch group at 100 yards with an Arisaka, although it is rare to shoot one much under 1½ inches.

The feature rifle for this article was brought home as a war souvenir by a returning GI who kept it until his death more than a decade ago, after which I acquired it. It was doubtful the rifle saw much action, but it was used in the war.

Arisakas were a significant part of history. And because there are so many variations in execution—if not design—it is possible to collect a wide array of specimens. ©

M1 Garand

This semiauto eight-shooter was arguably the best infantry rifle of World War II.

By Garry James

Given the context of the statement, it's pretty hard to disagree with General George S. Patton's evaluation of the M1 Garand rifle as "the greatest battle implement ever devised." While perhaps it achieved the most glory in World War II and Korea, the Garand in standard, sniper and match guises continues to be a favored arm with the military and sporting shooters around the globe.





M1 Garand



The M1 Garand was considered the finest battle rifle of World War II. It was rugged, reliable and adaptable to a number of roles.



Safety on the M1 is a simple catch mounted in the front of the trigger-guard that can easily be flicked forward for firing by the trigger finger.



Though not a lightweight, the M1 Garand is a pleasure to shoot. It is extremely accurate, and recoil is not prohibitive, even with the stout .30-06 round. The spring steel clip is ejected from the gun when empty.

When the rest of the world's armies were generally fielding bolt actions of basic World War I vintage and/or design, the United States gave its infantryman a rugged, reliable, accurate semi-auto repeater. One can understand the envy of the American GI's battle rifle shown by both foes and allies.

The U.S. Rifle Caliber .30 M1, as the Garand was officially called, was adopted into the service in 1936 after a rather tortuous birthing process. Its designer, John C. Garand, labored at the task for the Army Ordnance Department for almost 20 years before he came up with a semi-auto design that was strong enough to handle the formidable

U.S. .30-06 round—a cartridge that develops 50,000 psi chamber pressure.

The gun went through several incarnations following its debut in the early 1930s, and what finally emerged was a rifle that was deemed appropriate for the rough usage it could expect in the hands of a combat infantryman.

While today the system seems pretty basic, when it first appeared, Garand's design was hailed as something of a marvel. Using an eight-round, stamped sheetmetal en-bloc clip as part of the feeding system, the rifle functioned as follows: The bolt handle was pulled to the rear, where the action was held open by the follower. A clip of ammo was pressed down into the magazine and the bolt allowed to move forward, where it stripped off and chambered a round. When the trigger was pulled and the round discharged, gases were tapped off through a gas port in the forward bottom part of the bore. These gases forced the operating rod backward, compressing the operating-rod spring and opening the bolt. As the bolt opened, it extracted and ejected the spent cartridge and cocked the hammer. Relaxation of the operating-rod spring now forced the bolt to move forward, where it stripped off and chambered the next round. When all eight shots had been expended, the clip was forcibly ejected from the action and the bolt remained open,

ready for the insertion of another loaded clip.

Part of the magic of the rifle resided in its sturdy, responsive, rotating bolt—a concept that had paralleled somewhat the pre-World I experimental efforts of the French, Italian and Swiss ordnance bureaus. The system, as devised by Garand, proved to be so effective that it was used again in the selective-fire, removable-box-magazine 7.62mm M14 rifle—the gun that officially replaced the M1 in 1957.

The M1 was not only reliable, it was extremely accurate—so accurate, in fact, that it was easily adapted to the sniping role. As an aside, large numbers of the M1D sniper Garands have been brought into the country, mostly from Israel, in the past decade or so. Condition of these guns can often be quite good.

The M1 has always been a favorite with match shooters. Starting in the early 1950s, special National Match models were made up for military target shooters by Springfield Armory. Depending upon when they were made, the guns will have such niceties as glass-bedded stocks and specially fitted National Match parts (often marked “NM”).

Some 6 million Garands were produced by several sources between 1936 and 1957, including Springfield Armory, International Harvester, Harrington and Richardson, and Winchester. If you buy a World War II collector-grade Garand, it is wise to check if all parts match. (It is acceptable, however, for a Korean War rework to have mismatched parts.) Those guns produced by Springfield will have major components stamped “SA.” International Harvester rifles use the initials “IHC” (though barrels can be marked “LMR”). Winchester M1s are marked “WRA,” and H&R Garands have an “HRA” coding.

The M1’s safety is a sturdy, pierced piece of sheet steel located at the front of the triggerguard. Pushed to the rear, the gun is on Safe. When the lever is flicked forward with the back of the trigger finger, the gun is ready to fire. For a battle rifle, the M1’s rear-sight setup is pretty sophisticated, with a double-knurled-knob arrangement that corrects the peep for windage and elevation. The front sight is a sturdy blade, flanked by a pair of stout “wings.” The butt has a compartment for an oiler and combination tool secreted behind the metal buttplate. It is accessible via a hinged, spring-latched trapdoor (early guns did not have this feature, though).

While not exactly a lightweight (9½ pounds unloaded), the M1 Garand does balance extremely well. And using either the old-style M1907 military leather sling or the later web strap, the gun can be carried for extended periods with relative comfort. It shoulders nicely, and recoil, even with standard 150-grain M2 ball, is not prohibitive. A lady friend of mine, who is slightly over five feet, two inches tall, shot my National Match Garand for the better part of an afternoon with no complaints whatsoever. In fact, it was her favorite rifle out of the selection that included much lighter M1 Carbine and SKS semiautos.

For our evaluation we acquired a standard Springfield-made Garand. The gun was a Korean War rework and had a World War II receiver mated to a 1950-dated barrel. Condition of the piece was excellent, and all parts were strictly GI.

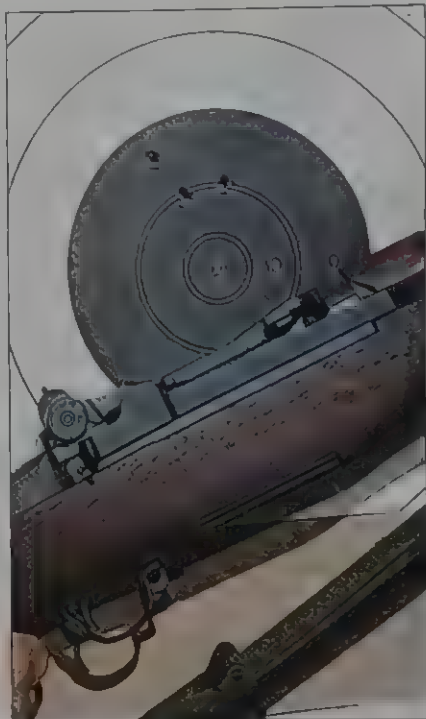
The rifle, along with a goodly supply of PMC M2 150-grain ball ammo, 150-grain Sampson SP and some of the high-grade 180-grain Norma Match .30-06, was taken to the Petersen Ranch in Palmdale, California. The evening before I left, I spent a bit of time



There were different length Garand bayonets, but all used the same catch mechanism as that on the 1903 Springfield.



The Garand used an eight-round, en-bloc clip that was pushed down through the top of the action for loading.



M1s are accurate and reliable. Specially tuned rifles made fine match guns.

M1 Garand

loading clips so that I would not have to bother with that chore at the range. Eight rounds snap into the clip with little trouble, and the clips can be reused many, many times.

Targets were set up at 100 yards, and shooting began in earnest. A clip of ammo was pressed into the receiver and the bolt allowed to go forward and chamber a round. Then, after

clicking off the safety, we loosed the first eight shots. As I've come to expect, recoil was not prohibitive, and the trigger, though of the usual military two-stage variety, was reasonable, coming in at 4½ pounds. From a rest, the gun managed easy two-inch groups at 100 yards. Offhand shooting at a 200-yard gong produced consistent hits. In shooting a couple

hundred rounds, we only had two stoppages, and these were directly attributable to a faulty clip that we reloaded at the range. Feeding the three types of ammo was impeccable, even when they were mixed together within one clip.

It's hardly necessary to carry the hyperbole much further—the M1's track record and high quality of serviceability speak for themselves. ©



To fieldstrip the M1 Garand, first open the action, and ensure the gun is unloaded (1). Close the action, pull back on the rear of the triggerguard (2), and remove the trigger group (3). Remove the barrel/action from stock (4). Pull forward on follower rod, and unlatch it from follower (5). Remove the follower arm and spring (6). Push out the follower arm pin (7), and remove the bullet guide, follower arm and operating rod catch (8). Remove the follower and slide (9). Unlatch and remove the operating rod (10, 11). Remove the bolt (12).

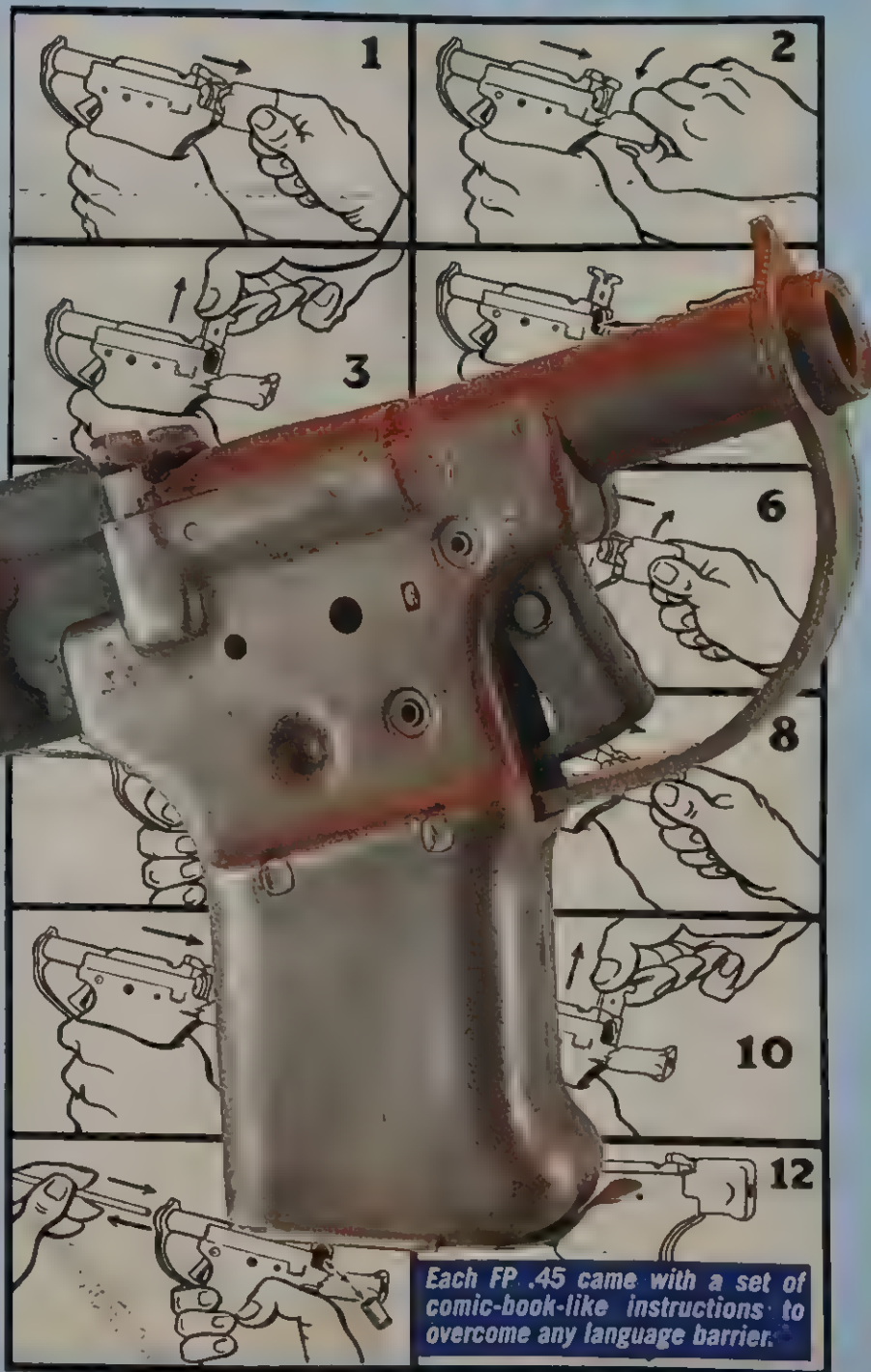
Liberator

This welded sheet-metal wonder was one of the secret weapons of World War II.

By Garry James

A few years ago I worked as series advisor (and occasional "talking head") on the History Channel's popular "Tales of the Gun" show. One of the more entertaining episodes was titled "Guns of the Bizarre" and included such things as fishhook guns, helmet cannons and the like. The World War II-vintage "Liberator," especially, was felt by the crew to be perhaps the most interesting of the lot. Of all of the weird bullet-throwing contrivances that have emanated from the mind of man since the invention of gunpowder, few odd-ball firearms have been made in larger numbers or with a loftier purpose than this sheetmetal, single-shot .45.

In 1942, supposedly at the behest of the Polish partisans who were desperate for armaments of any sort, the United States began top-secret work on a small, inexpensive throw-away pistol that could be turned out in great numbers and air-dropped or smuggled to resistance groups in Europe and Asia.





Shooting the Liberator was decidedly nasty. As well as featuring a moderately unpleasant recoil, the gun had a disconcerting tendency to pinch the shooter's trigger finger and hand.

Those .45 bullets keyholed at seven yards—not surprising from a 3½-inch-long smoothbore barrel. Still, the thing actually grouped pretty well.

Purposely given the misnomer “FP (Flare Projector) .45” (it was not called “Liberator” until after the war), the project received high priority and underwent several design changes before being turned over to the Guide Lamp Division of General Motors for production.

The Joint Psychological Warfare committee proposed, in March of 1942, that the “United States and Britain undertake at once to manufacture and distribute from 5 to 10 million very small, inexpensive, heavy-caliber pistols to the inhabitants of conquered countries.

“These pistols would be secretly distributed by undercover contacts or dropped by small parachutes from airplanes, flying at night at high altitudes, and scattered to obtain the widest distribution.

“Each pistol should be accompanied by 20 or 25 rounds of ammunition and an instruction sheet printed in the language of the country in which it is distributed.”

The committee originally saw the piece as a propaganda tool



Ten rounds of .45 ACP ammunition could be stored in the Liberator's hollow butt. A sheet-metal sliding cover contained the rounds.

rather than an effective offensive arm. “Suppose that the Germans or friends of the Germans did find four to every one found by a patriot,” the report went on. These small weapons would be of no use to the German war effort. And think of the physical damage that could be done by those that did not fall into German hands. If it were stated on the radio that 250,000 revolvers were being dropped and the Germans only found 100,000, the knowledge that 150,000 guns were missing or

in the hands of German-hating patriots would have a direct effect upon German morale.”

As so often happens in such cases, the proposals of the committee were modified considerably. Instead of a revolver, the final design was a single-shot pistol. Production figures were reduced to 1,000,000, and the gun was seriously intended to be used in a tactical role.

The FP .45 was a tribute to simplicity of design and construction ease. Most of the major components were of stamped sheet steel. The 3½-inch-long seamless tubing barrel was smoothbore for ease of fabrication and to allow the bullet to tumble, theoretically causing greater short-range damage. The lack of land and groove markings on the bullet would also confound the attempts of German ballisticians to determine exactly what type of arm was being used by resistance forces.

A heavy cast zinc cocking piece completed the package. The gun

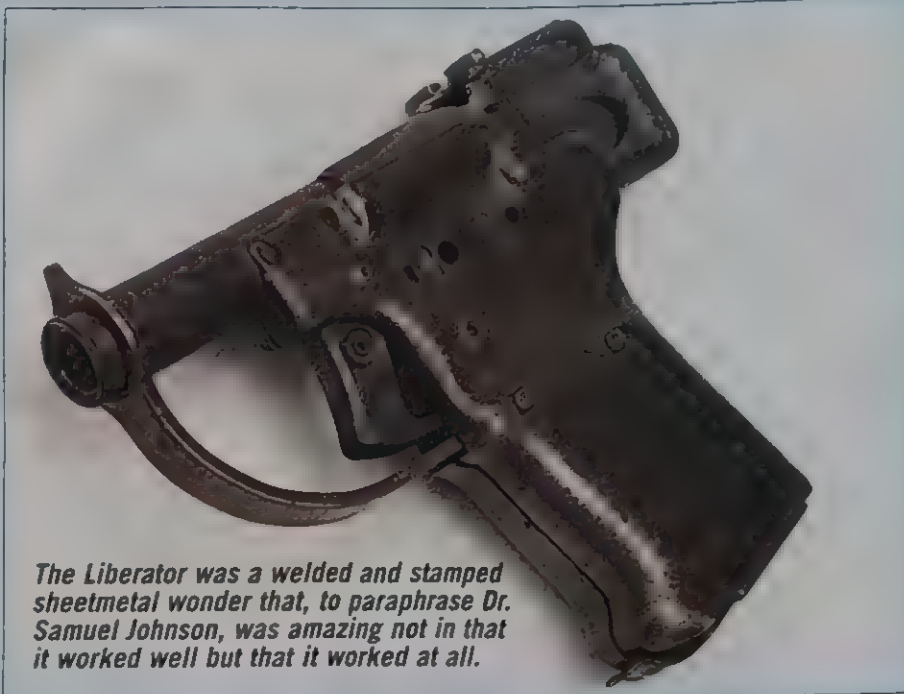
measured but 5½ inches overall; it was about an inch thick and weighed some 16 ounces. A sliding trap was included in the base of the butt to allow storage of 10 rounds of .45 ACP ammunition within the hollow grip. The entire gun was riveted and spot-welded together to keep manufacturing costs down and to hasten production.

A rudimentary rear-sight notch was cut into the top of the sliding breechplate. Also, a simple front post was included in the ring surrounding the barrel that formed the front attachment for the triggerguard.

Operation of the FP .45 was extremely simple. One merely grasped the pistol firmly, pulled the cocking piece to the rear and turned it sideways, exposing the breechplate. Two tabs on either side of the plate allowed the shooter to move it upward, exposing the chamber. One round was inserted, the cover pushed down and the cocking piece returned to its normal position. The most common version of the gun included a pointed rod in the top of the block, which allowed for correct alignment of the block and eliminated the possibility of the plate opening accidentally.

While early designs included integral ejection rods, it was felt that this unnecessarily complicated the gun, and the decision was made that cases could just as easily be expelled by a supplied wooden dowel or other battlefield expedient.

The Liberator was packaged in an untitled waxed pasteboard box with a line drawing of the pistol on the side. Included in the kit was a pistol, ejection rod, 10 rounds of ammunition and a comic-book-type instruction sheet designed to overcome any language barrier and to make it difficult for the enemy to determine the setup's country of origin. To further this latter objective the gun was unmarked and did not



The Liberator was a welded and stamped sheetmetal wonder that, to paraphrase Dr. Samuel Johnson, was amazing not in that it worked well but that it worked at all.

carry a serial number.

A few two-shot FP .45s were also produced but basically didn't get beyond the prototype stage. They were similar in design to the standard model; however, a horizontally sliding breechblock, holding a brace of .45 rounds side by side, was substituted for the more rudimentary breechplate.

Distribution of the guns was somewhat quixotic. About 500,000 were sent to England to be dropped in France, but there is little evidence that many, if any, reached their intended destination. In fact, I can remember while living in Britain I had one of my workers tell me that at the end of the war some of these turned up and that as a child, he and some of his friends got their hands on them and were playing cowboys and Indians until their parents and the authorities discovered their cache and confiscated the lot. Apparently, the next-largest quantities of Liberators went to China and the Philippines, in that order, with lesser numbers being distributed in Australia, Greece, the South Pacific and perhaps Belgium. There are few, if any, verified

examples of the FP .45 being actually used in combat. Apparently, the theory of coming upon an adversary at point-blank range in order to shoot him and take his gun was simpler in theory than in practice.

General Motors, as contracted, produced about 1,000,000 of the little pistols in about 90 days. The cost, originally calculated to be \$1 per gun, escalated to \$1.75 by the end of production. The entire package (pistol, box, instructions, etc.) came to just over \$2 per unit.

Liberators do occasionally turn up at gun shows, though their original price has escalated about 3,000 percent. An FP .45 in average condition will now bring around \$750. Not bad for a pistol that was intended to be tossed away after being fired once or twice.

I have had one of these things in my collection for years. A decade or so ago I did an evaluation with a Liberator that belonged to a friend of mine and felt that the gun was due for a reevaluation. Surely, it couldn't have been quite as bad to shoot as I remembered it.

Before we go any further in this piece, I want to emphasize that in

Liberator

no way do I recommend shooting one of these things. It must be remembered that when they were built a half-century ago, they were only designed for limited use. This coupled with several decades of gradual erosion makes shooting the Liberator a rather dicey thing. Our test gun was thoroughly checked out by a gunsmith prior to firing, and even then it was only subjected to a few shots.

Originally, the government determined that the maximum effective range of the FP .45 should be 25 yards. I had tried this in the past with laughable results. We decided that the standard "combat" range of seven yards would be more than efficient. We loaded the critter with 230-grain Black Hills hardball and pulled the trigger. It might be noted at this point that despite the fact that the cocking piece is pulled to the rear prior to

shooting the gun, the trigger acts more like a very, very heavy DA pull. Upon discharge I was immediately aware of a pain in the web of my hand and my trigger finger. When the gun fires and rocks back in one's hand, the cocking piece has a habit of catching the skin between the thumb and forefinger and holding it captive. Too, the cutout behind the trigger gives the shooter's finger a nasty pinch.

Recoil wasn't prohibitive, though neither was it particularly comfortable. After extricating myself from the gun, and examining my nasty blood blister, I trotted up to the target. The bullet had struck sideways; in fact, all subsequent bullets hit side-on. Surprisingly, my group wasn't too bad—about four inches. It shot high but certainly well enough to take out an adversary at close range, should one wish to do such

a thing. Cases were easily ejected by means of a piece of mesquite branch picked up at the range.

My associate Payton Miller essayed a couple of rounds and came away with the same groups and battle scars. This is not a gun for casual plinking. All and all, we fired around a dozen shots out of the Liberator, and a post-firing examination showed no structural or design weakness. Operation was flawless and ignition, sure. Still, I reemphasize neither the author nor *Surplus Firearms* recommends shooting a Liberator.

While the FP .45 project is certainly a sideshow of World War II, its laudable purpose and intriguing history make the gun almost a must-have for a collector interested in the arms of 1939–45, and despite its flimsy look and jury-rigged appearance...dammit, the thing did work! ©



Model 1896 Krag-Jorgensen Carbine

This handy little repeater would forever find fame as the arm carried by the Rough Riders at the Battle of San Juan Hill.

By Garry James

Theodore Roosevelt called the Spanish-American War's Battle of San Juan Hill "my crowded hour." On July 1, 1898, the redoubtable TR, his Rough Riders and members of the 9th and 10th Regular Cavalry, among others, fought their way through a fusillade of Spanish Mauser bullets to capture a fortified blockhouse on top of Kettle Hill. While Roosevelt carried a .38 Colt New Army and Navy revolver recovered from the sunken battleship *Maine*, the majority of his 1st U.S. Volunteer Cavalry and regular cavalry units carried carbine versions of the Army's first general-issue bolt-action repeating rifle, the .30-40 Krag-Jorgensen.

Though this well-made, reliable arm was somewhat outclassed by the Spanish Mausers, it still performed yeoman duty and was in no small part responsible for carrying the day.

Despite the fact that many European powers had adopted smallbore magazine rifles as early as the mid-1880s, the United States felt content issuing single-shot black-powder "Trapdoor" rifles to its troops well into the era of superior smokeless-powder arms. Finally, the disparity in fire-power and ballistics could not be ignored, and, after extensive trials, in 1892 the War Department chose a modification of the Norwegian-designed Danish Krag-Jorgensen.



Model 1896 Krag-Jorgensen Carbine



The Krag's safety is situated on the rear of the bolt. All the way to the right, the gun is ready to fire and to the left, on Safe.



While not as fast as the justly revered Mauser stripper-clip system, five rounds can be dumped into the Krag's side-mounted box magazine with relative ease.

This bolt-action arm was fitted with an unusual side-mounted box magazine that (in the Danish Model) was opened by means of a long pivoting gate hinged at the front of the magazine. When the gate was opened, the follower was held back and five rounds could be placed into the aperture. Closing the gate released the follower and put pressure on the cartridges, forcing them, one at a time, into a position where they could be chambered by the gun's bolt.

The system was sure, reliable and extremely smooth. Only the single locking lug on the bolt head effected any limitation upon the gun, as it was too fragile to handle really hot loads.

The U.S. authorities generally were happy with the overall Krag-Jorgensen design; however, for

American usage they felt compelled to incorporate a few changes. The magazine gate was modified to open downward rather than laterally, the bolt handle was turned down, a cutoff was incorporated so the gun could be fired single-shot (with rounds in the mag being held in reserve for emergency use), and a more positive safety was added to the rear of the bolt. The caliber was reduced from .32 to .30.

The first M-1892 Krags were issued to troops in 1894, and various other models of Krag rifles and carbines were introduced in 1896, 1898 and 1899. In 1898 there was even a .22 Rimfire Gallery Practice Rifle offered to allow troops to become familiar with their arms without expending the more expensive centerfire service ammunition.

The cartridge developed for use with the Krag was popularly known at the time as ".30 U.S." or ".30 Government," but its more common designation, ".30-40" (denoting .30 caliber backed with 40 grains of smokeless powder) is the one familiar to modern shooters and collectors. Initial velocity of the 220-grain service

load was 2,000 feet per second (fps)—a considerable gain in speed over the black-powder .45-70. In 1898 the velocity was increased to 2,200 fps, but given the hot, fast-burning powders and soft steels of the era, the boost did not work out—barrels were rapidly eroded and actions battered and damaged. Because of this, by 1903 the velocity was reduced to its original level.

The Krag was issued in time to see service in the Spanish-American War, where it was used side by side with the Trapdoor Springfield, still in the hands of volunteers. While it performed well, it was noticed early on that the slow side-loading magazine system was no match for the stripper-clip arrangement of the Spaniards' Model 1893 Mausers. This was most dramatically shown at the Battle of San Juan Hill, where some 700 Spanish riflemen inflicted 1,400 casualties on the attacking Americans (though in all fairness, it must be remembered that the *Yanquis* were attacking uphill, in the open, against a fortified position).

Two years after the Spanish-American War, the Krag further distinguished itself in the hands of U.S. relief troops during the Boxer Rebellion in China, where it drew favorable comparison with the Enfields, Nagants, Lebel's, Carcanos and Steyrs used by the other allied troops.

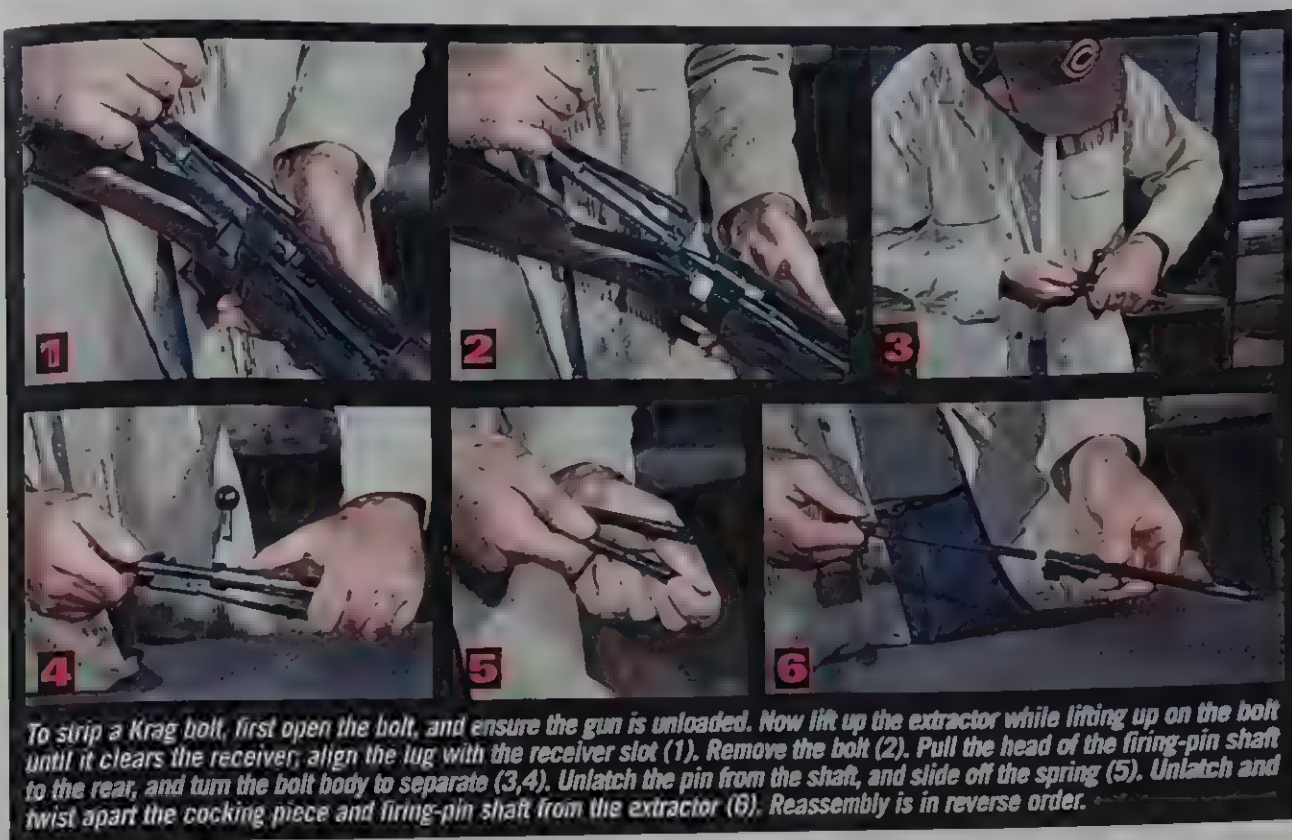
The Krag was also the principal military rifle of the long and bloody Philippine campaign. "And beneath the starry flag/ Civilize 'em with a Krag," went a line in a popular song of the period.

As noted earlier, the Krag-Jorgensen came out in a number of different models. Variations included changes in sights, furniture, etc. but generally maintained the integrity of the original piece.

The subject of this piece, the Model 1896 Carbine, was a handy little repeater, well suited for use on horseback. With a barrel length of 22 inches and an abbreviated fore-end,



The '96 proved to be a smooth, reliable shooter. Rounds were chambered and ejected with ease. The rifle's recoil, incidentally, was very pleasant.



To strip a Krag bolt, first open the bolt, and ensure the gun is unloaded. Now lift up the extractor while lifting up on the bolt until it clears the receiver; align the lug with the receiver slot (1). Remove the bolt (2). Pull the head of the firing-pin shaft to the rear, and turn the bolt body to separate (3,4). Unlatch the pin from the shaft, and slide off the spring (5). Unlatch and twist apart the cocking piece and firing-pin shaft from the extractor (6). Reassembly is in reverse order.

the '96 was the first of the Krag carbines (a Model 1892 never went further than a prototype). It had a ring bar on the left side of the stock for the attachment of a carbine sling, as well as a trap in its butt to accommodate a screw-together cleaning rod. The rear, ladder-style sight was graduated to 2,000 yards, and the nonadjustable front blade was left unprotected, in the style of the period. Almost 20,000 Model '96 carbines were manufactured, but as many were altered to accommodate later changes, today it's hard to find an unaltered specimen. This, coupled with the gun's use by the Rough Riders, has made it one of the most collectable of the Krags.

Our evaluation '96 was in about 85 percent condition, with a bright bore and much original bluing. A thin inspector's stock cartouche could still be seen on the wrist, and the gun even had its original three-piece cleaning rod and oiler in the butt trap. Ammunition used for the shoot were some handloads, which employed a 150-grain Sierra SP bullet backed by 42 grains of IMR 4895,

giving us a muzzle velocity of some 2,400 fps.

Five rounds were duly dumped into the open magazine, the mag door shut and a round chambered. The Krag carbine certainly lived up to its reputation as having the smoothest bolt actions ever. Throughout the session feeding and ejection were superb, and rounds could be fired in relatively rapid succession—I think only the Lee-Enfield can be worked faster. Accuracy was excellent, though as might be expected with the lighter bullets, groups were high. Average 100-yard, benchrested spreads ran about 2½ inches—not bad from a sub-2-foot barrel.

Following the run-through, my general observation was that despite the reputation of the Mauser, American troops in Cuba were anything but underarmed if they were carrying a Krag rifle or carbine. Granted, the Mauser could be charged more rapidly and efficiently, but neither the Krag's action nor its round could be found seriously lacking. In fact, if one com-

pares the ballistics of the 7mm Mauser and .30-40 rounds that were used in the Spanish-American War, he will find that the muzzle energies of the two rounds were pretty darned close.

Despite the obvious merits of the Krag, the U.S. authorities decided that to achieve parity with other military rounds and rifles of the period, it would be a good idea to adopt a Mauser-style system and a more powerful cartridge. And this we did just after the turn of the century with the superb Model 1903 Springfield. Still, the Krag continued to be used by militia units, and thousands were issued as training rifles during World War I. Following the conflict, most were sold surplus and provided many a hunter (including my father) with a low-cost, effective deer gun.

Fortunately for today's shooters and collectors, there are still a lot of Krags currently on the market, and a good specimen of one of the more common models can still be had for under \$800. It's a gun well worthy of rediscovery. ☐

All About The SKS Carbine



It's fun to shoot and red-hot in the collectables market right now.

By Joe Poyer

A friend of mine recently observed a man at a local gun show sifting through a rack of SKS Carbines and quizzing the proprietor closely. After watching him shake his head and move away, my friend said to me, "What could he possibly have been looking for? If you've seen one SKS, you've seen them all."

"Not so," I responded. "The SKS Carbine was the old Communist Bloc's M1 Carbine, and it has almost as many variations."

Origins

The SKS Carbine grew out of a rivalry between two of the Soviet Union's greatest firearms designers, Sergei Gavrilovitch Simonov and Fedor Vasilevich Tokarev. As

early as the end of the Russo-Japanese War of 1905, the Ordnance Department of the Imperial Russian Army had recognized that the future of small arms in modern warfare lay with a lightweight repeating rifle that fired a small- to medium-caliber cartridge. However, the revolutions of 1905 and 1917 and the resulting civil war delayed all but the most modest efforts to develop such a rifle. In the mid-1920s, work was resumed, but only in a modest way as the Red Army possessed huge stockpiles of the Model 1891 7.62x54mm rimmed cartridge and rifle. The Model 1891 cartridge was equivalent to the U.S. .30-06 or the German 7.92x54mm Mauser in range and breech pressure, which meant that any resulting semiautomatic or automatic rifle would have



to be very sturdy to withstand the heavy recoil forces generated.

Among the more successful designs submitted was one from a young arms inspector at a military depot, S. G. Simonov. While his design had several major flaws from a combat standpoint, it was promising enough that he was encouraged to continue its development. In 1931 he submitted a far more advanced design that, after a great deal of refinement, was adopted as the 7.62mm *Avtomaticheskaya vintovka sistemi Simonova obrazets 1936*, or the 7.62 Model 1936 Simonov System Automatic Rifle. Simonov's new design was a gas-operated weapon in which the breechblock dropped down against a stop to lock the bolt in place in the breech.

This early design had one fatal flaw—a long, open track for the bolt handle that gathered dirt and ice like a magnet, causing the rifle to jam frequently under combat conditions. Because the powerful Model 1891 cartridge was used, parts breakage rapidly developed as a real problem.

A new design competition was staged to develop an improved self-loading infantry rifle. Simonov submitted a revised design in which the bolt was driven by a long piston. Again, he used the system whereby the bolt tipped down at the end of the track to lock it in place against a step in the bottom of the receiver. He also added a 15-round detachable box magazine and redesigned the gas system.

His chief competitor during this round was F.V. Tokarev, who had achieved recognition for redesigning the Browning automatic-pistol system into the Tokarev Model 1930/33 pistol. Tokarev now submitted a new rifle design that used gas bled from the barrel to operate a short piston that drove the bolt back against a recoil spring. As in the Simonov system, as the bolt went forward, it dropped against a step to lock in place. The rifle had a 10-round magazine.

Politics and Arms Selection

Both rifle designs did well, but Tokarev's design edged out Simonov's. Tokarev was ordered to correct some deficiencies that had been noted during the testing, which he did, resubmitting his design on November 20, 1938. This time the rifle passed, and the Red Army adopted it as the *Samaozaryadnya vintovka sistemi Tokareva obrazets 1938g*, which translates as the Model 1938 Tokarev System Self-Loading Rifle.

Simonov, however, was not finished yet. As a member of the Communist Party, he had developed influential friends. He appealed to the Central Committee for another chance to prove that his design was superior, and in January of the following year, a special commission was convened to compare the two rifles. Unfortunately, Simonov did not control the facilities that produced his test rifles, which proved to be not as well made or rugged as Tokarev's test rifles. The commission noted this, and while acknowledging that Simonov's design was probably the superior with fewer moving parts and more efficient to manufacture, they referred the final decision to a meeting chaired by Joseph Stalin. Stalin, who knew Tokarev quite well but had never met Simonov, may have been swayed by the familiarity factor. Despite a minority report from B.I. Vannikov, the people's commissar for armaments, Stalin cast the deciding vote in favor of the Tokarev rifle.

Hard fighting that winter in the campaign against Finland exposed defects in the design of the SVT38, many of them caused by the use of the powerful Model 1891 cartridge. Modifications had to be made, and Stalin called his commissar for armaments on

All About the SKS Carbine



Russian-made SKS Carbines, as manufactured originally, were equipped with solid birch stocks. Replacement stocks fitted when the carbines were refurbished after the mid-1950s were usually made of laminated birch and show a very distinct grain pattern.

the carpet for an explanation. Remember that this was the period when Stalin was at the height of his powers and engaged in eliminating the entire upper echelons of the Red Army officer corps based on trumped-up charges aired in mock show trials. Even so, Vannikov stood his ground, reminding Stalin that he, Vannikov, had voted against the Tokarev design, preferring Simonov's instead, while Stalin had cast the deciding vote for the SVT38. Stalin, falling back on the age-old excuse of bosses everywhere, told Vannikov that he should have argued harder to convince him. He

then ordered that the Tokarev rifle be modified as quickly as possible.

The SVT38 was modified and reissued as the SVT40, and though it was reduced, breakage continued at an unacceptable level. The numerous special commissions called to review the rifle's performance over the next two years all concluded that its poor showing was due primarily to the use of the powerful Model 1891 cartridge and not to any inherent design flaw—a conclusion borne out by the fact that Simonov's 1935 design had also suffered from the same problem. Production of the

SVT40 was finally halted during the summer of 1943.

From Antitank Rifle to Carbine

After his rifle design failed to be accepted, Simonov was detailed to develop a new antitank rifle. The Red Army had closely studied the use of German armor in Spain during the Spanish Civil War and in the campaigns in Norway, Belgium and France in 1940. In these early days of World War II, Germany used a mix of German and Czech tanks with armor between 12.7 and 50mm (0.5 to 1.47 inches) thick, thin enough to be penetrated by a solid slug if fired from a large-caliber rifle. Simonov developed a semiautomatic rifle with a five-round detachable magazine, designated the PTRS, which fired the powerful Soviet 14.5x114mm antiarmor cartridge. The PTRS was widely employed by the Red Army and even used as a long-range sniper rifle against personnel and unarmored vehicles.

At the same time, the Red Army has at last begun to make progress in the development of a new cartridge falling somewhere in range and power between the Model 1891 rifle cartridge and the smaller 7.62x25mm pistol cartridge used in the Tokarev Model 1930/33 pistol, as well as the wide variety of submachine guns the Red Army was equipped with. By 1943, a design had been selected,



The SKS's cleaning kit is held in a hole in the butt. It is easily removed by pushing down on the spring-loaded cover. The kit contains a brush and jag, as well as a pin for securing the kit body to the rod, where it serves as a handle.

tested and proven. The new intermediate cartridge, designated the Model 1943, was a reduced-size version of the antitank round used in the PTRS.

Simonov had long sought a less powerful cartridge for use in an infantry rifle, and when the M43 became available he moved quickly. His PTRS antitank rifle had proven to be a serviceable, easy-to-manufacture design that was, best of all, extremely reliable. He downsized the action as the basis for a new carbine design. In less than 18 months, the new carbine was ready for field testing under combat conditions.

Battle Testing

The tide turned against Germany in 1943 with twin losses at Stalingrad and Kursk. The Nazis were unable to mount a spring offensive in 1944, and all along the 1,500-mile front stretching from the Arctic to the Black Sea, the vaunted Wehrmacht was in retreat. Meanwhile, the North African Campaign mounted by Montgomery and Eisenhower had routed the German Afrika Korps. British and American forces had vaulted the Mediterranean to Sicily and then continued on the Italian mainland. But the Allies were still not engaged in Western Europe, and the Red Army was suspicious of Roosevelt's and Churchill's intentions. Would they not at some point sign an armistice with Germany and allow the Nazis to storm back into Russia with redoubled vigor? The Kremlin—in the person of Joseph Stalin—was taking nothing for granted.

Preliminary trials of Simonov's new carbine using the M43 round had been so promising that the commissar for armaments had ordered a preproduction run, which was completed in the spring of 1944. Parts breakage was almost nonexistent, and the



The folding bayonet is released by pulling back on the retaining collar and rotating the blade forward when it snaps over the muzzle.



Once the bayonet has been released, the cleaning rod may be withdrawn from beneath the barrel.

medium-power M43 cartridge allowed excellent accuracy because of its low recoil. The semiautomatic feature of the carbine, combined with the quick-reloading, 10-round magazine, provided the Soviet soldier with a devastating shoulder weapon during a massed infantry charge.

That summer the new carbine was tested under battlefield conditions by elements of the First Byelorussian Front Army during its sweep into eastern Germany and by cadets at the officer training school at Vistrel. The reports from both units were glowing; with only minor changes, Simonov's carbine was adopted as the *Samozaryadnyi Karabin Sisyemi Simonova Obrazets 1945g*. Plans for production, however, were interrupted by other demands. Enough Mosin-Nagant Model 1891/30 rifles, new M1944 Mosin-Nagant carbines or short rifles, and SVT38s and SVT40s had been manufactured to fulfill the Red Army's needs for the remainder of the war. Machine guns, artillery and ammunition had a higher priority, and production of the new carbine was shelved. Once again, it appeared as if Simonov had lost out.

The Cold War

The immediate postwar years were a time of consolidation. The United Kingdom and the United States staked their claim to Western Europe, while the Soviets occupied most of Eastern Europe. Confident that the postwar years would bring prosperity, the Western Allies were not at first unduly worried about the spread of Communist influence. Revolutionary political activity in Italy and Greece soon disabused them of that notion. Local Communist Parties moved rapidly to consolidate their positions in Eastern Europe as, in rapid succession, Czechoslovakia, Hungary, Romania, Bulgaria and Yugoslavia joined Poland in establishing Communist governments. British and American forces ended attempted Communist coups in Greece, Italy and France, but of the threatened countries, only Finland was able to resist Moscow's belligerence by declaring neutrality. By 1949 the Iron Curtain had fallen from the Arctic to the Danube.

The Berlin Crisis of 1949 established the Cold War as a reality. In Moscow, where events were being orchestrated, the orders had gone out. The Red Army was to be mod-

All About the SKS Carbine



Ten rounds of 7.62x39mm ammo can be loaded into the integral magazine through the top of the receiver by means of a stripper clip.

ernized and reequipped. Production orders were issued for the SKS Carbine, and manufacture began at Tula Arsenal, southwest of Moscow, in late 1948. The first production SKS Carbines came off the assembly line in 1949. In 1953 the great small-arms factory at Izhevsk also began production of the SKS.

Once again, events moved against Simonov. Mikhail Timoteyevich Kalashnikov had begun work on a fully automatic assault rifle in 1944 while convalescing from war wounds. The result was the *Avtomat Klashnikova Obrazets 1947g*, the celebrated AK47 assault rifle. This provided the Red Army with the medium-range, high-capacity, fully automatic rifle it had wanted since 1916 when Vladimir G. Fedorov had demonstrated the first assault rifle. The AK47 entered production in 1953. SKS production ended one year later at Izhevsk and the following year at Tula Arsenal.

Chinese Production

In 1949 Mao Tse-Tung's Red Army evicted the nationalist government from mainland China. Before the new Communist government had established its

authority, events in neighboring Korea and the U.N. entry into the war caused the Chinese Red Army to more than double in size. Small arms were desperately needed. The arsenal of mismatched Japanese, German, American and Russian arms that existed in China in 1949 was not suitable to post-World War II warfare; besides, it had been seriously depleted during the civil war.

Russian small arms were imported in large quantities to supplement the existing arsenals while technicians and production experts were rushed to China to mobilize its primitive industrial complex for long-term sufficiency. Many of the soldiers conscripted in to the People's Red Army were unschooled and came from areas of China that had changed little in 1,000 years. A simple-to-use, simple-to-maintain and very rugged rifle was needed. The Russian SKS filled the bill admirably. It was tested by the Chinese Red Army and adopted as the Type 56.

Arms manufacture in China in the 1930s and 1940s was conducted by a series of state-owned factories that had been established under the nationalists, but the manufacturing infrastructure that

had survived the civil war was not sufficient to supply the vast numbers of parts needed. As a consequence, small manufacturing concerns established throughout the countryside concentrated on making just a few parts that were then shipped to the major factories and assembled into complete weapons. Much of the final finishing was done by hand. These state factories all had names but in official usage were referred to by numbers.

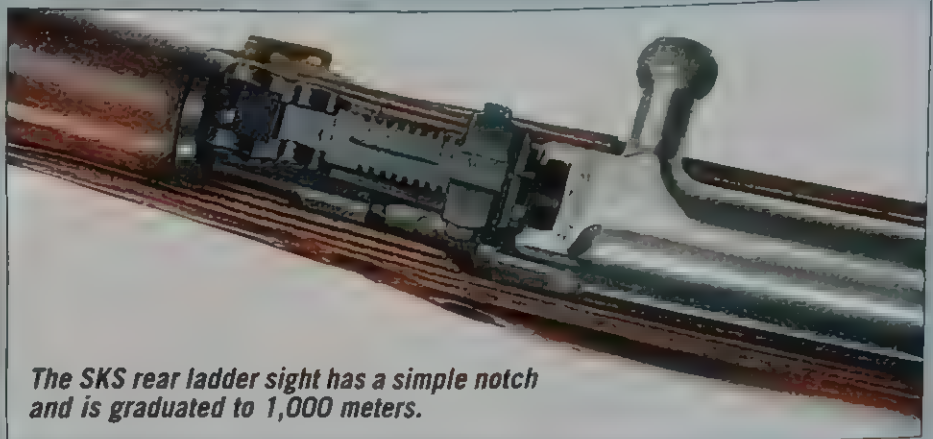
Production of the SKS Carbine began in 1956 at Factory 296 (the Jianshe machine tool Factory) within the city limits of Chongjing (formerly Chunking). Russian machinery and even some Russian parts were used during the first few years. These early Chinese-military-production SKS Carbines are the equal in every regard to the Tula or Izhevsk Russian production. The exact number of factories and small concerns involved in the production of the SKS remains a state secret as they are still producing weaponry for the Red Army, but the better-known factories (besides Factory 296) are Factory 26, Factory 416 and Factory 66.

Chinese SKS Carbine military production ended in the 1970s but was restarted in the 1990s when commercial sales were allowed for a time in the United States. These later commercial carbines do not always show the same care and finish as the early military carbines.

While the AK47 overshadowed the SKS Carbine as a first-line military rifle, other nations in the Communist Bloc found it expedient to manufacture the SKS because of its basic simplicity and reliability. Besides the Soviet Union and the people's Republic of China, the SKS was manufactured in five other countries: North Korea (Type 63), East Germany (Karbiner-S), North

Vietnam (SKS), Yugoslavia (M59/66) and Romania.

Identifying the national origins of an SKS Carbine is relatively easy; identifying the national origins of each part is not. Although the SKS was manufactured by numerous factories in six different countries, the parts, with few exceptions, are relatively interchangeable. It is important that you understand the exceptions because certain parts from one manufacturer are unsafe when used in a carbine of another manufacturer. As an example, there are four types of firing pins. The Type 1 and Type 2 firing pins are not interchangeable, but the Type 3 and Type 4 are. The Type 4 firing pin—made in China and Romania—can be installed upside



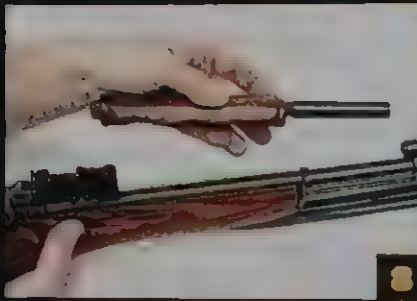
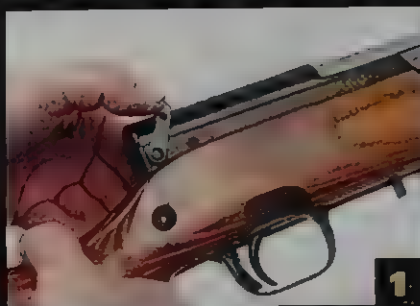
The SKS rear ladder sight has a simple notch and is graduated to 1,000 meters.

down by someone not paying strict attention. This will cause it to jam forward in the bolt so that the tip protrudes enough to cause a slam fire if closed on a chambered round.

For More Information

For a complete description of

the SKS Carbine, its component parts and the interchangeability problem, refer to *The SKS Carbine*, by Steve Kehaya and Joe Poyer. It is available from North Cape Publications, Dept. SF, P.O. Box 1027, Tustin, CA 92781, or by calling (800) 745-9714. Price: \$16.95 plus \$2.75 postage. ©



To fieldstrip an SKS, first open the action, and ensure the gun is unloaded. Rotate the action-cover retaining latch (1), and pull out the latch (2). Remove the cover (3). Pull out the recoil-spring assembly (4). Slide the bolt and carrier from the rear of the action (5), and separate the bolt and bolt carrier (6). Rotate the handguard latch (7). Remove the handguard (8), and slide out the operating rod (9).

The Hi-Power

Without question, this 14-shot autopistol is the most successful handgun of its type ever devised.

By Garry James

It's been called "Browning's last design." While there is some truth to the matter, if this were really the case, the great John M. would have been doing much of his final work on the Hi-Power auto pistol from some sort of celestial drawing board, as he had passed to his reward some time before the first of these 14-shooters rolled off Fabrique Nationale's assembly line.

Given a number of monikers throughout its long life—"GP," "Hi-Power," "P35," "Pistole 640(b)," etc.—there's no question that the Hi-Power is the most successful auto pistol ever devised, one that has seen service throughout the world with military and police forces, as well as being a highly popular civilian sidearm. Perhaps the only place it has not distinguished itself is in the targeting arena, but we'll get to the reason why a bit later.

Supposedly, the Hi-Power got its start at the behest of the French government, which put in a requirement to the folks at Fabrique Nationale in

The Hi-Power auto was one of few guns fielded by both sides during World War II. The German-made guns were designated Pistole 640(b) and the Allied Inglis autos as No. 1 and No. 2 (pictured).

Herstal, Belgium, for a large-capacity service handgun. This tale may or may not be apocryphal, but the fact remains that by the mid-1930s the perfected product appeared, and a wonder it was.

Browning had been working on the gun's basic design, but then he died, and the task was taken up by FN designer Dieudonne Saive, who incorporated some of Browning's concepts and added a few of his own. Saive would later gain even more fame as the designer of the superb FN-FAL military rifle.

The challenge of producing a workable, large-capacity auto pistol was one that had plagued inventors for years. One early solution appeared in WWI, when 25-round aviation magazines were developed for the Colt 1911 Government Model. Problem was, they stuck way out of the gun's butt and really didn't feed well. Other attempts included a curious, clunky Italian chain-drive-style 20-shot pistol and more stabs at stretching existing mags, which even if they did work, meant the pistol for which they were intended would end up with an inordinately long grip.

Saive finally solved the problem with a rugged, eminently workable double-stack magazine that could hold 13 rounds of 9mm Parabellum without radically altering the gun's shape. Naturally, the grip would have to be a little thicker but not so much that it would affect the overall handling of the piece. The mag was mated to a version of Browning's Model 1911 auto, which incorporated some interesting new innovations. Instead of the Government Model's swinging-link arrangement, the new pistol employed an ingenious cam lug. Thus the 1911's barrel bushing could be eliminated, and fieldstripping would be greatly simplified. Too, the earlier stirrup-style trigger connection was jettisoned in favor of a pivoting type that employed a transfer bar in the slide. While the latter worked just fine, it was not as sensitive as the earlier setup and thus was not particularly

responsive for target work—though the gun was designed as a service pistol anyway, and this small complaint hardly mattered.

Controls on the new auto were similar to those of the Government Model and involved a slide stop and safety sited on the left side of the frame. The magazine release was a 1911-style button on the left, just behind the lower portion of the triggerguard. Also, the gun was equipped with a magazine safety—a feature not always appreciated by some as the gun could not be discharged with the mag removed, rendering it useless as a single-shot in an emergency situation.

The new arm was ready for production in 1935 and was immediately adopted by the Belgian military as the P-35. Also called *Pistolet Automatique Modele a Grand Puissance* (Hi-Power), this was the name that stuck. Despite the wide magazine, the grip was very comfortable in the hand. The barrel measured five inches, overall length of the gun was 7¼ inches, and it weighed some two pounds, three ounces—about ideal for a service pistol.

Early Belgian military autos featured nifty tang sights graduated to a very optimistic 500 meters, but they were set up to be attached to a combination shoulder stock/holster so at least there was some chance of hitting targets at an extend range.

In very short order other countries such as Estonia, Lithuania and Peru put in bids for Hi-Powers, but the Germans were soon to nullify these contracts in the form of WWII. When the Nazis invaded Belgium and took over the FN plant, they were more than pleased to accept the P-35 into their own service and soon began producing the pistol as the Pistole 640(b). While the general finish was not as good as those on the prewar Belgian models, quality was still very high—especially early in the war—and the Hi-Power was put into front-line service. Some 300,000 were made for Hitler's effort.



Despite its girth compared to a standard screwdriver handle, the Hi-Power's 13-round magazine does not swell the pistol's grip all that much.



The evaluation Inglis Hi-Power was in excellent condition and still exhibited the original Canadian ID decal.

Guns of this period generally exhibit the acceptance Waffenamts WaA103 or WaA140.

Apparently, the British made a few prototype Hi-Powers during the conflict, but it was left to the John Inglis Company of Toronto, Canada, to put the gun in the hands of the Allies. Inglis had acquired blueprints for the auto in 1942 and by 1944 was turning them out at a pretty good clip. Versions included guns with both tangent and regular notch sights. Many were manufactured for



The author's best three-inch, 25-yard rested groups with his Inglis Hi-Power were with Federal 115-grain FMJs. This belies the Hi-Power's reputation for mediocre accuracy.

the Chinese, whose guns exhibited a "CH" in the serial number.

As well, Inglis-made Hi-Powers were used by British and Canadian Airborne troops and Commandos, as well as anyone who could get his hands on one, the gun being a considerable improvement over the No. 2 Mk 1 Enfield revolver then in use. Inglis autos used by the Brits and Canadians had a "T" in their serial numbers. A Parkerized finish was standard. (As an aside, it's easy to tell if an Inglis has been refinished, as the serial numbers were stamped into the frame and slide after the gun was

Parkerized and appear bright on original pistols.)

After the war, FN resumed production of the Grande Puissance, and as well as selling them commercially (very successfully, I might add), it managed to secure contracts from more than 50 other countries for the pistol. While most were made in Belgium, some, such as those issued by Argentina, were produced indigenously.

Fieldstripping a Hi-Power is simple. First remove the magazine, and ensure the gun is unloaded. Pull back the slide, and lock it to

the rear by moving the safety catch upward to catch in the takedown notch. Push out on the slide-stop pin from the right side of the frame, and remove the stop from the left side of the pistol. Release the safety from the takedown notch while securely holding onto the slide, and allow the slide to move forward off the frame. Take the recoil spring and guide from the slide, followed by the barrel. Reassemble in reverse order.

My evaluation Hi-Power was an almost-mint-condition Inglis No. 2 Mk 1* (I might advise against shooting the No. 1 Mk 1 and the No. 2 Mk 1 as their rounded cam-slot lugs did have a tendency to break). Chosen 9mm ammunition was Black Hills' 124-grain FMJ and Federal's 115-grain JHP. First off, the trigger, which dropped at six pounds after a small amount of takeup, was much more agreeable than I remembered. The wide grip seemed to distribute shock well, and recoil was relatively light. Of course, functioning was perfect, and average 25-yard rested groups of three inches were just fine for a military gun. Best groups were produced with the Federal ammo. Perhaps my only criticism of the piece is the rather skimpy safety catch that can be a bit difficult to access in a hurry. Rapid-fire, offhand combat groups at five yards were, as might be expected, deadly accurate and great in number, with none falling outside the black.

There was not a hitch or glitch in shooting some 150 rounds. The gun certainly lived up to its reputation, and I'm certain that despite his limited participation in the project, Browning would still have proprietary pride in the result.

Hi-Powers are still being sold commercially, and many good surplus guns can still be found on the market, though the prices of some of the more unusual ones are getting pretty steep. I'll go out on a limb and suggest that if you could only own one handgun, the Hi-Power would certainly be a very good choice. ©



Sights on the pistol were basic but adequate and involved a simple notch rear (right) and blade front (left). Some models were equipped with 500-meter tangent rears and were notched to take shoulder stocks.

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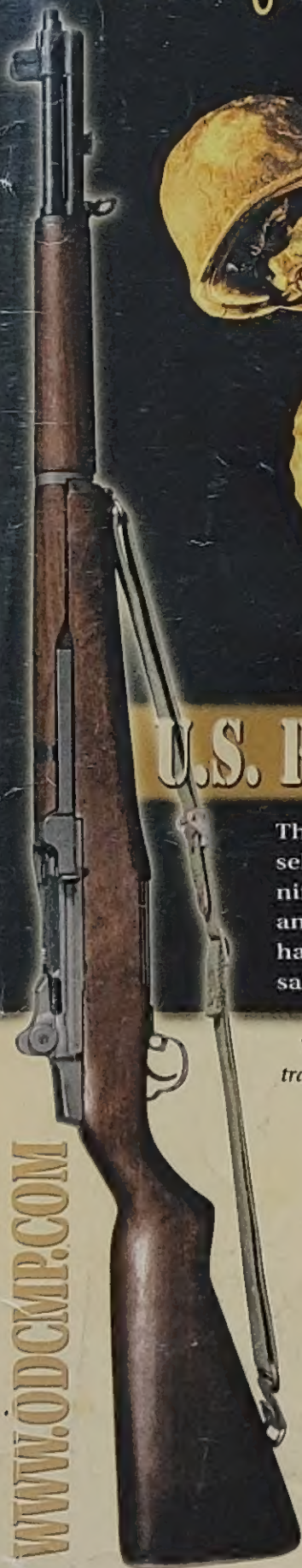
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